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Parent-Child Communication About the Cancer Experience
in Families of Pediatric Cancer Patients

by

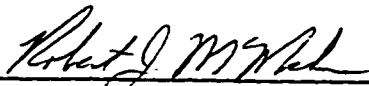
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A dissertation submitted in partial fulfillment
of the requirements for the degree of

Doctor of Philosophy

University of Washington

1997

Approved by 
Chairperson of Supervisory Committee

Program Authorized to Offer Degree Psychology

Date March 20, 1997

UMI Number: 9730069

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Doctoral Dissertation

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Abstract

Parent-Child Communication About the Cancer Experience

in Families of Pediatric Cancer Patients

by Kathryn H. Robbins

Chairperson of the Supervisory Committee: Professor Robert J. McMahon
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Examined in 35 parent-child dyads how parents and their children receiving treatment for cancer perceive their parent-child communication about the cancer experience, how demographic/social/medical variables relate to the communication, and how the communication relates to child, parent, and family functioning. Patterns of communication are described for various aspects of communication. Parents and children were found to be more open than closed and more frequent than infrequent in their communication. Differences between informational and emotional communication were found, suggesting parents and children do distinguish between these two types of communication. Few differences were evident between children's styles and parents' styles of communication and between child report and parent report of communication, suggesting considerable congruence within dyads and across reporters. Demographic variables did not relate to communication; social variables showed primary relationships with emotional communication and medical variables showed primary relationships with informational communication. Openness and frequency of communication accounted for significant variance in family functioning and in social functioning but showed surprisingly little relationship with individual functioning. Results underscore the clinical importance of communication and effects of the aspect examined, reporter, and subject person on communication. Clinical implications and future directions for further study of communication about the cancer experience are discussed.

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ACKNOWLEDGMENTS

The author wishes to express sincere appreciation to Professor McMahon for his assistance in the preparation of this manuscript and to the Supervisory Committee members for their valuable comments. In addition, special thanks to Susanne Martin and Jenny Vonckx for their assistance in data collection, to the Hematology-Oncology staff at the medical center for their support of this study, and to the participating families who gave their time and interest to this study.

Introduction

As medical advances have progressively increased the life spans of children with cancer, clinical and research attention has focused on means of facilitating the psychosocial adaptation and well-being of these children and their families. Having open, honest, and direct family communication about the cancer experience has been identified as an important coping strategy of children with cancer and their parents (Chesler & Barbarin, 1987; Claflin & Barbarin, 1991; Cohen, Friedrich, Copeland, & Pendergrass, 1989) and as an important correlate of successful child and family adjustment. Empirical research has related open family communication about cancer to increased short-term and long-term adjustment of both the child with cancer and the parents (Fritz, Williams, & Amylon, 1988; Kellerman, Rigler, Siegel, & Katz, 1977; Nannis et al., 1982; Slavin, O'Malley, Koocher, & Foster, 1982; Spinetta & Maloney, 1978; Spinetta, Swarner, & Sheposh, 1981). In addition, numerous clinical recommendations have been made for families to be honest in talking to the child about the cancer and to be emotionally receptive and supportive of any concerns or fears the child may express (Fritz et al., 1988, Slavin et al., 1982, Spinetta, 1974, 1977, 1980; Spinetta & Maloney, 1978; Vernick & Karon, 1965). However, despite the clear importance that has been placed on such open communication, to date the various aspects of parent-child communication and such aspects that most relate to optimal adaptation have not been comprehensively examined.

The following review will first summarize how communication about cancer has evolved historically to become recognized as an important factor in child and family adjustment. Conceptualization of communication as a

coping strategy and specific areas of child, parent, and family adjustment to which such communication has been found to relate will be described. Next, how openness of communication between parent and child about the child's cancer has been methodologically operationalized and assessed will be discussed. Limitations to previous efforts to operationalize and assess parent-child communication about the cancer will be noted with emphasis on how the study presented here addresses these limitations. Finally, the present study will be described.

Communication: From Protective to Open Approach

Communication about cancer with the child who has cancer has been one of the most discussed and controversial issues in the pediatric oncology literature. The prominence of this communication issue evolved from the "to tell or not to tell" controversy over whether the child with cancer should be shielded from information about his/her cancer (this being the "protective approach") or whether the child should be fully informed (this being the "open approach"). These approaches were based on arguments as to the extent to which the child had an understanding of, was concerned by, and could cope with knowing about the seriousness of his/her illness and the possibility of death.

Protective Approach

The protective approach was strongly advocated during the 1950's, 1960's, and early 1970's and maintained that information about the child's diagnosis of cancer, prognosis, and treatment should be shielded from the child in order to protect the child (Evans & Edin, 1968; Richmond & Waisman, 1955; Toch, 1967; Yudkin, 1967). First, it was believed that children

under the age of 10 years had immature, incomplete concepts of death (i.e., they did not understand the inevitable and irrevocable nature of death) (Childers & Wimmer, 1971; White, Elsom, & Prawat, 1978). Hence, the child with cancer was said to be too young to understand the life-threatening nature of his/her illness (Smith & Schneider, 1969), and disclosure of any illness-related information to the child was deemed unnecessary. Second, because of these cognitive limitations to the child's understanding of death, telling the child with cancer about his/her illness was viewed as potentially harmful in that it could create anxiety that the child would not have had otherwise and raise feelings and fears of death that the child could not cope with or was trying to suppress (Evans & Edin, 1968; Morrissey, 1963; Natterson & Knudson, 1960). Third, because it had been observed that the child with cancer does not often ask questions about his/her illness, this silence was construed as a signal that the child with cancer was unable or unwilling to cope with knowing about the cancer and hence should be shielded from such information (Richmond & Waisman, 1955; Toch, 1964). Last, informing the child about his/her serious illness was viewed as an affront to the parents' control over their destinies and that of their child's and as an affront to the physicians' illusions that the child would get better. By protecting the child from knowledge of the illness and avoiding frank discussion with the child, parents and physicians felt they could maintain hope for the child's survival and more effectively handle their own anxiety about the child's illness. Acknowledging the illness to the child was seen by parents and physicians as acknowledging lack of hope that the child would live and as an inability to

handle their own emotional reactions (Binger et al., 1969; Chesler, Paris, & Barbarin, 1986).

Open Approach

Support for an open approach to communication with the child with cancer first came indirectly as evidence mounted which challenged the beliefs underlying the protective approach. Researchers found that even young children with cancer were indeed aware of the seriousness of their illness and did have a concept of death at their own level of understanding (Reilly, Hasazi, & Bond, 1983; Spinetta, 1974; Spinetta, Rigler, & Karon, 1973). It was found that these concerns about death were expressed not always as fear of death per se, but often as concerns about separation, disfigurement, or hurt (Binger et al., 1969; Morrissey, 1963). It was also observed that these concerns were not necessarily expressed by the child through typically adult means such as asking direct questions, but often through more subtle, symbolic means such as behaviors during play or themes of make-believe stories (Spinetta et al., 1973; Waechter, 1971). In controlled studies, children with cancer were found to express significantly more death-related themes and concerns in their responses to pictures and in their telling of stories than healthy children and than children with less serious, non-life-threatening illnesses (Spinetta et al., 1973; Waechter, 1971). It was observed, too, that children hospitalized for cancer who experienced a child's dying on their ward had many fears and questions about death and their own lives (Plank, 1964).

With these studies it became increasingly clear that protective efforts of adults were not only ineffective in preventing children with cancer from

experiencing anxiety, but possibly even harmful in heightening negative emotions of the children being protected. Studies described how even when parents of physicians did not directly tell the child with cancer about the seriousness of his/her illness, the child often learned of it from someone else or sensed it from changes in the parents' behaviors and emotions (Binger et al., 1969; Bluebond-Langner, 1974; Spinetta, 1974). Waechter (1971) described the altered emotional climate and false cheerfulness experienced by the child of those people around him/her who were trying to shield information. The child who was aware of his/her diagnosis and prognosis but whose parents would not discuss this with them experienced a high degree of anxiety, isolation, and loneliness, and sometimes exhibited behavior problems (Binger et al., 1969; Bluebond-Langner, 1974; Morrissey, 1963; Spinetta, 1974, 1980; Vernick & Karon, 1965). As Binger et al. (1969) described,

The children who were perhaps the loneliest of all were those who were aware of their diagnosis but at the same time recognized that their parents did not wish them to know. As a result, there was little or no meaningful communication. No one was left to whom the child would openly express his feelings of sadness, fear or anxiety. (pp. 415-416)

It was suggested that the child with cancer construed silence by the parent as unwillingness by the parent to discuss the illness, as evidence that the child's illness was something too fearful and horrible to discuss, and/or as suggestive of the parent not caring (Fife, 1980; Yudkin, 1967). When children could not directly approach adults to discuss the illness, it was observed that such children often turned to other patients for answers or drew their own

conclusions, which resulted in misconceptions, misunderstandings, and increased anxiety (Vernick & Karon, 1965).

The protective approach was thus characterized as setting into motion a negative process whereby the parent was silent to protect the child; the child, viewing the parent as unapproachable and the topic of the illness off limits, refrained from asking questions and became increasingly withdrawn and frightened; the parent, in turn, continued to be evasive, with the rationalization of "He didn't ask, so I didn't tell him" reinforcing the parent's protective approach (Karon & Vernick, 1968).

In addition to the above findings negating arguments for the protective approach to communication with children, direct support for taking an open approach came from clinical observation and research. It was observed that when given the opportunity and encouragement, children with cancer asked many questions and wanted to talk about the illness experience (Karon & Vernick, 1968; Morrissey, 1963). Anecdotal observations indicated that children with cancer who had been informed of their serious condition showed no greater difficulties coping than those children who had not been directly informed (Binger et al., 1969). Talking about the illness with the child became positively conceptualized as signaling to the child that the parent or physician was not anxious about the child's cancer, that the child was clearly expected to get better, and that the parent or physician was there to support the child through the illness process (Karon, 1973). Open communication with the child with cancer became recognized as a very important vehicle of expressing hope and support to the child. As Binger et al. (1969) concluded from observations of parent-child communication about the child's cancer,

Hope rests not only on life or death. Recognizing with the child what he already knows (that he has a fatal illness) opens up communication without which hope cannot be conveyed. Though he knows the worst that can happen, hope can yet be imparted. He knows that lies will not be told to him, that he will not be deserted physically or emotionally, and that he can voice aloud his feeling of sadness, fear, helplessness, loss and anxiety. (p. 418)

Relation of Communication to Adjustment

Further support for an open approach to parent-child communication about cancer has come from empirical findings in the last two decades that have related open communication about the child's cancer to successful child and family adjustment. These findings will be detailed here regarding child, parent, and family adjustment.

Child Adjustment

Regarding child adjustment, one of the earliest studies of parent-child communication about cancer found that families who included the child in discussion of the illness had children who exhibited adaptive coping strategies (Spinetta & Maloney, 1978). Families in which levels of communication about the illness (as assessed by maternal report) were high were those families in which the children exhibited a nondefensive personal posture, expressed a consistently close relationship with the parents, and expressed basic satisfaction with themselves. The children under study were all children with leukemia aged 6 to 10 years being treated as outpatients. Adolescent outpatients who were within 5 years of diagnosis (varied diagnoses within the sample) reported in interviews that open

communication about their diagnoses made them feel less worried and more willing to cooperate with medical procedures. Physicians and parents of the patients corroborated these reports (Pfefferbaum, 1982). Knowledge of the disease and its treatment as assessed by structured interviews was found to significantly relate to adolescents' global sense of control of their lives and their environment. Knowledge of the cancer was found to be an important coping strategy for maintaining a sense of control for adolescents who were receiving treatment (Nannis et al., 1982). Investigations showed that giving the child with cancer opportunity to talk about the illness did not, as suggested by advocates of the protective approach, induce negative feelings; rather, behavioral ratings by medical staff of children aged 2 to 13 years who were receiving treatment indicated that time periods in which the children spoke about their illness were actually ones in which the children were rated as less depressed compared to those times when they did not discuss the illness. Discussion of the cancer appeared associated with improved positive mood of these children with cancer (Kellerman et al., 1977). Vernick and Karon (1965) reported similar findings that hospitalized children with leukemia aged 9 to 20 years who were given daily opportunities to discuss their illness with medical staff were observed to cope adaptively and to display infrequent withdrawal or depression. Waechter (1971) likewise found that the more opportunities children with cancer had to discuss their illness and any fears/concerns, as reported in parental interviews, the fewer feelings of isolation, alienation, and anxiety these children expressed in their responses to projective pictures.

Retrospective studies examining childhood survivors of cancer several years after treatment have found knowledge of diagnosis and communication about the cancer during treatment to relate to better overall psychosocial functioning at follow-up. The largest retrospective study to date of childhood survivors of cancer (Koocher & O'Malley, 1981; Slavin et al., 1982) examined whether when children with cancer learned of their diagnoses related to their long-term psychosocial adjustment. Results from interviews with 116 survivors who were at least 5 years post-diagnosis and who were diagnosed when 18 years old or younger showed that early knowledge by the child of the cancer diagnosis did relate to long-term adjustment. Those survivors who learned of their diagnoses within 1 year of diagnosis or by age 6 if diagnosed in infancy tended to be better adjusted, as assessed by combined ratings from psychiatric and psychological evaluations, than those survivors who were informed late of their diagnoses or who were self-informed (i.e., not told by a parent or physician). The pediatric cancer survivors who received the highest adjustment ratings were more likely to have been informed early of their diagnoses than to have been informed late or have been self-informed.

Another study of pediatric cancer survivors found that directness of communication experienced by the child during treatment predicted later outcome in several psychosocial areas. Fritz et al. (1988) assessed 52 survivors of childhood cancer and their families 2 or more years after treatment had ended to determine the survivors' current psychosocial functioning. Directness of communication during treatment, measured by sum ratings of the survivor's and survivor's parent's responses to interview questions about how the survivor talked about and handled the illness, significantly

related to the survivor's current school functioning, social/peer interaction, recreational activity level, current openness in talking about the cancer experience, and global adjustment. In fact, of all illness-related and psychosocial factors pertaining to the time of treatment, the communication pattern as well as availability of peer support were the most predictive of long-term psychosocial outcome.

Parental Adjustment

Although numerous studies have examined the psychosocial adjustment of parents of children with cancer, few studies have examined parental adjustment in relation to parent-child communication, and no studies have examined this relationship using standardized assessment of parental functioning. Just as for children with cancer, open parent-child communication about the child's cancer has been related to the parents' improved adjustment both during the child's treatment and in the event of the child's death. Parents who did not share with their child the diagnosis of cancer early in treatment retrospectively reported that trying to hide the diagnosis from their child was a great source of stress and difficulty both during and after the treatment period (Slavin et al., 1982). Vernick and Karon (1965) made similar observations that parents of children with cancer who avoided informing the child of the diagnosis spent too much energy doing so; parents who shared information with their child were better able to use focus their attention on the child as well as save their own emotional strength. Additional clinical observations have described that parents experience a more meaningful relationship with their child when they communicate openly with the child about the cancer diagnosis (Binger et al., 1969). Open

communication seems to play a role, too, in adaptation of the parent in the event of the death of the child with cancer. Those parents best adjusted after the child's death reported having given the child greater information and emotional support during the course of the illness than those parents less well adjusted. Parents whose children had died and who had not spoken openly about the illness with them usually wished they had done so (Spinetta et al., 1981).

Family Adjustment

On a family level, open communication about the child's cancer appears to play an important role as well. Longitudinal studies following families with children with leukemia from diagnosis to 6 years post-diagnosis have consistently related current open communication within the family to current adaptive coping efforts by the family as a whole (Kupst & Schulman, 1988; Kupst et al., 1982, 1984). Ability of family members to talk openly among themselves about the child's illness, treatment course, and prognosis (as rated by medical staff working with the families) significantly predicted overall coping ratings of the families. Additional findings by Cohen et al. (1989), though not quite reaching significance, suggested that maternal report of greater communication with the child with cancer was positively related to the cohesion and adaptability of the family.

Summary of Adjustment Findings

To summarize, research findings have documented a relationship between communication about the child's cancer, particularly the communication between parent and child, and several areas of child, parent, and family adjustment. For the child with cancer, open communication has

been associated with the child experiencing fewer feelings of isolation, depression, and anxiety; greater self-satisfaction; greater sense of control; closer relationships with the parent; more emotional support; more hope for the future; and better social, academic, and behavioral functioning (Fritz et al., 1988; Kellerman et al., 1977; Nannis et al., 1982; Slavin et al., 1982; Spinetta & Maloney, 1978; Vernick & Karon, 1965; Waechter, 1971). Communication is said to indicate to children with cancer that there is hope that they will get better and that there is emotional support available to them. The child who is openly informed to some degree about his/her cancer tends to worry less and cooperate more with medical procedures; tends to be more expressive of any concerns or fears; and tends to show better long-term psychosocial adjustment than the child who is not informed about the cancer. Parents who communicate openly with the child about the cancer experience less stress and emotional burden and better overall adjustment in the event of the child's death than parents who are less communicative (Spinetta et al., 1981; Vernick & Karon, 1965). Family members who are openly communicative about the illness with one another tend to have more meaningful relationships with one another and overall good coping efforts when compared to families who are less communicative.

Communication as a Coping Strategy

In light of the evidence relating open cancer-related communication to psychosocial adjustment, open and honest communication has come to be viewed as an adaptive coping strategy of parents and their children with cancer. Theoretical support for communication serving as a coping strategy comes from several counts. First, seminal work by Lazarus (1966) defined

coping as a process that is activated when a threat is perceived and that is aimed at regulating emotional distress caused by threat. Under this model of coping, a threat is perceived as such when it causes uncertainty, loss of control, reduced self-esteem, and negative feelings (Van Dongen-Melman, Pruyn, Van Zanen, & Sanders-Woudstra, 1986). Effectiveness of the coping process is measured by the extent to which coping reduces the emotional threat. Applying this model of coping to children with cancer, cancer can be viewed as presenting a great threat given the uncertainty of outcome, loss of control over physical well-being and normal daily activities, low self-esteem, and negative emotions (fear, anxiety, emotions, helplessness) that typically characterize the cancer experience. Open communication can thus be viewed as an effective coping strategy in that it serves to reduce these emotional threats experienced by parents and their children about the cancer.

The role of communication in fostering a sense of control, providing information, and conveying emotional support further supports communication serving as a coping strategy. It has been suggested that a sense of control of one's self and environment is both basic and necessary for positive mental health (Nannis et al., 1982) and that loss of control for children or adolescents can potentially disrupt normal social and emotional development (Zeltzer, 1980). Having cancer certainly challenges children's sense of control as the cancer and its treatment increase the children's dependency on parents and medical personnel and curtail the children's control over almost every aspect of life (e.g., activities, food, daily schedule, physical well-being) (Nannis et al., 1982; Worchel, Copeland, & Barker, 1984). Thus, communication that helps children with cancer maintain a sense of

control serves as an important coping strategy. Seeking information and emotional support have likewise been identified as adaptive coping strategies for children with cancer (Bull & Drotar, 1991), and information-seeking has been identified as a consistent construct in research on children's coping with stressful medical events (Peterson, 1989). Communication that provides information to the child and conveys emotional support and allowance for the child to express fears or concerns thus represents effective coping. It appears, then, that open communication about the cancer can serve as an adaptive coping strategy for the child with cancer and for the parents given the communication's functions of reducing the negative threats of the cancer, fostering a sense of control, providing information, and conveying emotional support.

Clinical Recommendations for Open Communication

Given the view of open communication as an effective coping strategy with a positive relationship to adjustment, clinical recommendations have abounded for parents to be open with their child in discussing the cancer, for physicians and medical staff to be similarly open with the parents and the child, and for people who come in contact with the child to provide the child with opportunities to express his/her concerns in order to alleviate anxiety and fear (Armstrong, Wirt, Nesbit, & Martinson, 1982; Binger et al., 1969; Fritz et al., 1988; Gogan, O'Malley, & Foster, 1977; Slavin et al., 1982; Spinetta, 1974, 1977, 1980; Vernick & Karon, 1965; Waechter, 1971). Recommended readings available in hemoncology clinics and distributed to parents and their children with cancer strongly emphasize the importance of informing the child about the cancer, treatment procedures, prognosis, and possibility of death. These

readings also emphasize to encourage the child to talk openly about feelings; to give the child an outlet for emotions; to acknowledge the child's feelings; to have frequent family discussions about the cancer experience to reduce anxiety and help family members cope with the illness; and to be aware of the challenges in parent-child communication about the cancer experience (Frantz, 1983; National Cancer Institute, 1987, 1993; Simonton & Shook, 1984; Spinetta, Spinetta, Kung, & Schwartz, 1976). Several activity books are designed to encourage the communication of feelings and needs and to elicit the child's questions and concerns (Elliott, 1981; Warmbier & Vassy, 1981). As one pamphlet (National Cancer Institute, 1987, p. 7) summarizes, "Setting up patterns of open communication early in his illness will support your child now and will strengthen your relationship for years to come."

Parents and pediatric cancer survivors have affirmed these recommendations as well. Over 90% of the parents ($N = 104$) and 70% of the pediatric cancer survivors ($N = 116$) studied by Slavin et al. (1982) stated that they believed the child with cancer should be told the cancer diagnosis. Pfefferbaum and Levenson (1982) found, too, that the majority of adolescent cancer patients and physicians studied believed that it was extremely important for the pediatric cancer patient to know about cancer-related issues.

Aspects of Communication

The interpersonal communication literature suggests that there are many important aspects that comprise communication and that are valuable in describing a pattern of communication (Eisenberg, Falconer, & Sutkin, 1978). Application of this literature to the topic of parent-child communication in the pediatric cancer setting suggests that these several

aspects of communication should each be examined in order to more accurately and fully describe cancer-related communication and in order to better identify how these aspects may differentially relate to personal adjustment.

Aspects of communication that have been empirically assessed, clinically observed, or theorized as important can be categorized as including communication of factual information (e.g., diagnosis, prognosis, treatment); communication of emotions (e.g., feelings, thoughts, concerns); process of communication (e.g., frequency of discussion, extent to which child initiates discussion, timing of communication relative to time of diagnosis); attitudes toward communication (e.g., willingness to engage in discussions; satisfaction with communication); and other general descriptors of communication (e.g., types of questions asked).

Communication about factual information has been the most frequently examined aspect of parent-child communication about cancer. Most commonly assessed has been what the parents have told the child and what the child reports knowing about the diagnosis, prognosis, and treatment procedures. Other areas pertaining to factual information that have been examined include what information the child wanted to know at the time of diagnosis, when and by whom the child was told the diagnosis, and when the child became aware of the seriousness of the illness (Chesler et al., 1986; Claffin & Barbarin, 1991; Cohen et al., 1981; Slavin et al., 1982; Spinetta, 1977; Spinetta et al., 1981; Vernick & Karon, 1965; Waechter, 1971).

Communication on an emotional level of thoughts, feelings, fears, and concerns between parent and child has been suggested as crucial to

establishing or maintaining open communication. In almost all writings addressing the value of open communication with the child with cancer, primary emphasis has been placed on the need to use communication as a means of meeting the emotional needs of the child, of encouraging the child to discuss fears and concerns, and of conveying emotional support (Binger et al., 1969; Spinetta & Maloney, 1978; Van Dongen-Melman & Sanders-Woudstra, 1986). It has been proposed that telling a child facts about the diagnosis, prognosis, and treatment is very different than communicating openly about feelings, fears, and hopes, and that providing a climate of openness and support for the child and addressing the child's concerns is more important than providing information about the illness (Koocher & O'Malley, 1981; Slavin et al., 1982; Vernick & Karon, 1965; Waechter, 1971). As Binger et al. (1969) wrote: "The question is not whether to talk about the diagnosis and prognosis ... but rather how to let the child know that his concerns are shared and understood and that there is willingness to talk about them with him" (pp. 417-418). However, no empirical research has directly assessed parent-child communication about the child's cancer from an emotions standpoint (i.e., communication of thoughts, feelings, concerns, fears).

Some studies have addressed the process of communication, such as if and how frequently the child discussed his/her illness and whether the child initiated conversations about the illness or waited (Cohen et al., 1989; Kellerman et al., 1977; Spinetta et al., 1981). However, further assessment of the frequency of cancer-related discussion, situations when discussions are most likely to occur, and frequency with which parent and child initiate

discussion remain needed in order to contribute to a better understanding of the parent-child communication pattern.

Attitudinal aspects of communication with the child with cancer have received some attention as well, more so in writings of clinical observations of families than in empirical research. Attitudinal aspects that have been studied or observed include how satisfied parents are with their disclosures to the child and willingness of the child to engage in discussions about the cancer (Binger et al., 1969; Cohen et al., 1989; Spinetta et al., 1981). However, little is known about how satisfied the parent and child are with their current level of communication, what aspects they might wish to be different, and what aspects of communication satisfy them the most.

Operationalization of Communication

Although evidence appears to support an open approach to communication between parent and child about the child's cancer, several methodological and theoretical issues limit the research to date addressing parent-child communication about the child's cancer. A primary limitation is that the construct of communication has not been operationalized consistently across studies, clearly within some studies, or comprehensively regarding different aspects that may comprise communication.

The majority of studies addressing parent-child communication about cancer have assessed clearly defined aspects of communication with primary focus on content and extent of information disclosed (e.g., what, when, by whom, and how often disclosure has occurred). A good example is Claflin and Barbarin's (1991) study in which children with cancer were asked to retrospectively report what information they were told about the diagnosis

when they first learned of the illness ("what they were told about the diagnosis or what was wrong with them"); what information they were told about the prognosis when they were first diagnosed ("if anything was said about how sick they were and/or whether the possibility of death had been mentioned"); what information they were told when first diagnosed about the future treatment regimen; their current knowledge of illness ("if they knew a name for their illness"); and if treatment information had been explained prior to medical procedures.

Other aspects addressed in such research have included whether the child with cancer knows the diagnosis, chronicity of disease, and treatment information (Vernick & Karon, 1965); when the child was told the diagnosis, by whom the child was told, and age at diagnosis (Slavin et al., 1982); what parents told the child about the illness (Chesler et al., 1986); amount of information desired by the child about the cancer and child's asking of questions about his/her illness (Worchel et al., 1987); the child seeking information about his/her illness (Bull & Drotar, 1991); and frequency of the child discussing his/her cancer (Kellerman et al., 1977).

Unfortunately, general conclusions about the openness of parent-child communication about the child's cancer have frequently been made based on such singular aspects of communication as described above. For example, assumptions have been made that what the child knows about the diagnosis and how soon he/she learned about it indicate the level of family openness in discussing the cancer and in discussing the child's fears and anxieties (Koocher & O'Malley, 1981; Slavin et al., 1982; Susman et al., 1982). These assumptions are faulty for several reasons. First, much evidence has

suggested that children become aware of their cancer whether or not parents communicate this knowledge to them (Spinetta, 1974; Vernick & Karon, 1965; Waechter, 1971) and that children with cancer receive information from many different informants (Claflin & Barbarin, 1991). Therefore, what a child knows about his/her cancer should not be used to infer what information parents have communicated to the child. Second, it may be possible that communication is open in some aspects, such as giving information to the child about the illness, but closed in other areas, such as not giving information about treatment plans. Another example might be the child with cancer who freely asks questions about what the cancer is and about treatment procedures (suggesting an open communication style), but who shares little of his/her concerns about the cancer or his/her feelings about the treatment (suggesting a closed communication style).

Whereas in the studies described above specific aspects of communication were separately assessed, in another group of studies several different aspects of communication were assessed but represented by a single global rating score (Cohen et al., 1989; Spinetta et al., 1981). For example, Spinetta et al. (1981) based their categorization of open parent-child communication about the cancer on parent responses to a mixed set of questions assessing, in part, the child's awareness of the illness, willingness to talk about the illness, and the types of questions asked about prognosis. However, a global rating of open communication on this limited set of questions is potentially misleading as it disguises the possibility that communication could be open in some ways but closed in others. For example, in the above study opposite ratings on each of the questions could

have potentially cancelled each other out so that the global rating of a given child reflected a middle score on the closed-open rating continuum of communication, rather than more accurately portraying a child who may have been very aware of the illness, unwilling to talk about treatment, very willing to talk about the illness in general, and likely to ask lots of questions about other children who have cancer but not about his/her own prognosis.

In other studies, communication has been vaguely operationalized. For example, in a retrospective study of pediatric cancer survivors, the variable of "direct communication" (with the child about the cancer during the child's treatment) was defined as "how the child handled the illness in school and talked about it with peers, family, and strangers" (Fritz et al., 1988). No specifics were given as to how this variable was actually assessed. Yet important conclusions were drawn regarding the level of open communication this variable was said to assess and its relation to long-term psychosocial outcome.

Finally, there are studies which have drawn conclusions about open parent-child communication from variables not directly pertaining to communication or pertaining to communication but not specifically to parent-child communication. For example, a child's awareness of diagnosis or prognosis is often assessed and interpreted as indicating the openness of parent-child communication (Slavin et al., 1982; Spinetta, 1977; Waechter, 1971). However, it may be possible that the child's awareness reflects information disclosure from sources other than, or in addition to, the child's parent. Similarly, frequency with which family members talk about the child's cancer (Powazek, Payne, Goff, Paulson, & Stagner, 1980) and the

talkativeness of the child about the cancer (Kellerman et al., 1977) have been investigated as indicating openness of parent-child communication. The results may really describe general discussion about the cancer rather than communication specifically between parent and child.

In summary, the lack of consistency, clarity, and comprehensiveness with which the construct of open communication between parents and the child with cancer has been addressed in the literature suggest that caution should be exercised when interpreting available evidence to make conclusions regarding cancer-related communication and its relation to psychosocial adaptation.

Response Formats in Assessment of Communication

Just as communication has been operationalized in so many different ways, the response format for assessing communication has varied greatly as well. Communication about the child's cancer has been assessed by parent responses to questionnaires (Cohen et al., 1989; Spinetta & Maloney, 1978), parent responses in interviews (Chesler et al., 1986; Fritz et al., 1988; Pfefferbaum, 1982; Spinetta & Deasy-Spinetta, 1981; Waechter, 1971), child responses in interviews (Clafin & Barbarin, 1991; Fritz et al., 1988; Nannis et al., 1982; Pfefferbaum, 1982; Slavin et al., 1982; Vernick & Karon, 1965), and medical staff ratings (Kellerman et al., 1977; Kupst & Schulman, 1988; Kupst et al., 1982, 1984; Vernick & Karon, 1965). Although live communication between parent and child about the child's cancer has been clinically observed and described, it has never been used as an empirical method to assess communication. Because the developmental nature of information disclosure and the changing nature of the child's illness make time-limited

observational assessment undesirable, parent and child response to interview about their live communication is perhaps a secondary means of assessing such live communication.

Informants in Assessment of Communication

Studies of parent-child communication about the child's cancer have typically relied upon parental report. However, report of communication by only the parent or only the child ignores the fact that communication is a reciprocal interaction and that each person may perceive the communication differently. Although younger children's self-report often has been found unreliable, it seems essential to assess the child's verbal description in order to examine how the child perceives communication with his/her parent. How the child understands and describes the communication about his/her cancer, whether or not it is truly representative of reality, is an important starting point for researching the area of parent-child communication.

Congruence between Parent and Child Report

Parent-child congruence has been examined in the pediatric cancer literature in a few studies regarding the following areas: child's and parent's personal sense of control (Nannis et al., 1982); what the adolescent wants to know at the time of diagnosis and what the parent believes the adolescent wants to know (Pfefferbaum, 1982); the child's awareness of prognosis and the parent's belief about the child's awareness (Waechter, 1971); the child's desire to talk about the cancer and the parent's behaviors in supporting that talk (Vernick & Karon, 1965); the child's recollection of when the child learned the diagnosis and the parent's recollection (Slavin et al., 1982); the agreement

regarding the child's prognosis (Mulhern et al., 1981); and the child's coping styles (Phipps, Fairclough, & Mulhern, 1995).

Yet to what extent parent and child reports about parent-child communication about the child's cancer are congruent has not been considered to date. Assessing such congruence is generally important in order to better understand how to evaluate information from both children and parents, to explore factors that may influence differences in perspective, and to examine sequelae of discrepant reporting (Tarullo, Richardson, Radke-Yarrow, & Martinez, 1995). It has been observed in clinical and nonclinical populations that differing perceptions of communication may result in mixed messages and incompatible communication styles (Eisenberg et al., 1978), and researchers have anecdotally suggested that parents and children who have different communication styles about the child's cancer are liable to experience emotional and relationship difficulties (Spinetta & Deasy-Spinetta, 1981). Also, there is some suggestion that reporting by children with cancer about some things, such as depression, may differ substantially from parent and medical staff ratings (Worchel et al., 1988). It has been generally recognized in the clinical child psychology literature that correlations between child and parent report on various clinical assessment measures are frequently low (Achenbach, McConaughy, & Howell, 1987; Klein, 1991).

Factors Influencing Communication

Several factors appear to impact the communication about cancer that occurs between parent and the child with cancer. These include child's age, parent's age, parent's religious orientation, number of children in the family, parent's perceived social support from the family, individual coping styles,

physician-related factors, and illness-related factors. Age and developmental level of the child are of primary importance in impacting how much information the parent will share with the child, when the parent will share this information, and the degree of detail of that information. The older the child at the time of diagnosis, the earlier the parent tends to share information about the cancer and the more information and detail the parent gives (Chesler et al., 1986; Claflin & Barbarin, 1991; Slavin et al., 1982; Spinetta, 1974). Likewise, older parents tend to share more information about the cancer with their ill child than do younger parents (Chesler et al., 1986). Given that children in general face changing developmental tasks as they grow older, it has been suggested that as the child with cancer grows older, the nature of concerns expressed and topics for discussion likely change (Baum & Baum, 1989).

Regarding parent religion, Catholic parents tell children significantly more information about the cancer than do Protestant parents, parents with other religious preferences, or nonreligiously identified parents (Chesler et al., 1986). Parents with more children in addition to the ill child share more about the cancer and treatment than parents with fewer or no other children; this appears especially true when the other children are over the age of 6 years (Chesler et al., 1986). The more help and support parents report receiving from social workers as well as from other children in the family, the more information the parent shares with the child (Chesler et al., 1986).

Individual coping styles and needs of the child with cancer and of the parent also impact parent-child communication (Katz & Jay, 1984; Van Dongen-Melman & Sanders-Woudstra, 1986). For example, children who

rely on information-seeking strategies to cope with their illness may be more likely to initiate and be receptive to discussion than children who cope using other strategies.

Physician communication style, physician recommendations to the parent, and trust of the parent in the physician all influence the amount of information a parent shares with the child (Claflin & Barbarin, 1991; Kirkpatrick, Hoffman, & Futterman, 1974). Physicians who favor an open approach to communication with the child, develop a positive relationship with the parent, and communicate well with the parent influence parents to develop similar open patterns of communication with the child.

Factors that have not been found to impact the information parents share with their children include the child's or parent's gender, the parent's socioeconomic background, the parent's level of stress, and social support received by the parent from sources other than a social worker or family (Chesler et al., 1986).

Illness-related factors also have been observed to impact the parent-child communication. Chronicity of the cancer, immediacy of the possibility of death, higher number of treatment side effects experienced by the child, and change in medical condition (especially worsening) all serve to increase the information disclosure and emotional support by parents to their children (Chesler et al., 1986; Claflin & Barbarin, 1992; Cohen et al., 1989; Pfefferbaum, 1982; Waechter, 1971). Time since diagnosis, type of diagnosis, frequency of hospitalization, and number of relapses have not been related to amount of information shared with the child by the parent (Chesler et al., 1986).

However, there is some suggestion that as time since diagnosis increases,

information-seeking behaviors increase during invasive procedures in children with cancer (Smith, Ackerman, Blotcky, & Berkow, 1990).

Summary of Limitations

Findings regarding parent-child communication about the cancer experience must be interpreted while keeping in mind the methodological variations (e.g., differences in definitions and assessment formats) used to measure communication across studies. Such variations in turn limit interpretability of findings regarding the impact of factors on communication and the relation of communication to psychosocial adaptation. These limitations point to the clear need to examine the parent-child communication pattern more comprehensively with assessment of several aspects that comprise communication and with clear definition and measurement of these aspects.

Aims of the Present Study

The present study was designed to expand on previous research in several ways:

(1) To provide comprehensive descriptive information about several aspects of parent-child communication about the child's cancer experience. The main question being addressed in this regard was "How do parents and children with cancer describe their communication about the cancer experience?".

As discussed previously, several prior studies have examined, in some fashion, communication about the child's cancer experience with the child who has cancer and have made general conclusions about communication based on the findings. However, there exists a lapse in the literature of

studies that (a) specifically target parent-child communication about the cancer experience; (b) assess multiple aspects of this communication; (c) assess communication of emotions; (d) examine current communication; (e) operationalize the assessed aspect of communication clearly; (f) employ the child as an informant in addition to the parent; and (g) employ an interview format.

The present study addressed each of these issues. It assessed several aspects of communication regarding the cancer experience: (a) the communication of factual information (e.g., frequency of such communication; openness of such communication); (b) the communication of emotions (e.g., frequency of such communication; extent to which feelings are expressed verbally versus nonverbally; openness of such communication; (c) the process of communication (e.g., who initiates discussion about the cancer; changes in communication over time since diagnosis); and (d) attitudes toward the communication (e.g., willingness to engage in discussion; satisfaction with communication; importance of communication to the parent-child relationship; helpfulness of communication as a coping means).

Each of these aspects of communication was defined by specific interview questions and response ratings designed to comprehensively assess current communication between parent and child about the cancer experience. In addition, the present study was the first to involve both parents and children from parent-child dyads to assess these aspects of communication.

Several specific hypotheses were made:

(a) It was hypothesized that differences in openness and in frequency of communication would exist – that the majority of families would describe their communication to be open rather than closed and to be frequent rather than infrequent.

(b) It was hypothesized that communication of information would differ from communication of emotions in openness and frequency.

(c) It was hypothesized that children and parents would differ from each other in their communication styles. It has been recognized that individuals have different needs, abilities, and desires to engage in communication about the cancer experience (Katz & Jay, 1984). Previous studies have described how children with cancer often have different needs and desires regarding cancer-related communication than do the parents (Karon & Vernick, 1965; Waechter, 1971). Findings, too, that many factors (e.g., the family's philosophy of life and view of death, the child's age and developmental level, the family's usual style of dealing with a crisis, the family's style of grieving and emotional expression) influence how a parent chooses to communicate with the child (Chesler et al., 1986; Katz & Jay, 1984; Spinetta & Deasy-Spinetta, 1981) suggested there would be differences in how openly communicative parents and children would want to be and would be with each other.

(d) It was hypothesized that children and parents would differ in how they perceive and hence report their communication with each other. No studies specifically examining parent-child reporting congruence existed by which to guide hypotheses. There are some pediatric oncology studies addressing parent-child reporting congruence regarding sense of control (Nannis et al., 1982), the child's prognosis (Mulhern et al., 1981), the child's

coping style (Phipps et al., 1995), what the child knew about the prognosis (Waechter, 1971), and when the child learned of diagnosis (Koocher & O'Malley, 1981; Slavin et al., 1982) that have indicated that parents and children tend to agree in their responses to these items. However, studies not involving pediatric oncology families have indicated that parents and their children do not always agree in their perceptions of family interactions such as injury events (Peterson, Moreno, & Harbeck-Weber, 1993), interpersonal relationships (Ritchie & Fitzpatrick, 1990), or number of talks and times spent talking about Acquired Immunodeficiency Syndrome (Sigelman, Mukai, Woods, & Alfeld, 1995).

(2) To examine the relationship of demographic, social, and medical variables to aspects of parent-child communication about the cancer experience. Because certain demographic, social, and medical factors have been found to influence how openly parents communicate with their children about the cancer, several such factors were examined regarding their relationship to the aspects of communication assessed in this study. Based on previous research findings, it was expected that the child's age, parent's age, parent's religion, parent's perceived social support from family, and family structure, as well as the chronicity of the child's cancer would significantly relate to communication of information and to communication of emotions.

(3) To examine how specific aspects of communication about the cancer experience differentially relate to measures of parent and child psychosocial adjustment. Despite the lack of comprehensiveness, clarity, and consistency with which communication has been operationalized and assessed in most studies to date, the general conclusion has been that the more openly

informative and emotionally supportive the communication between parent and child, the better the adjustment of both the parent and child. It was similarly expected that, in this study, those parents and children who experienced their communication with each other about the cancer experience as open and honest (as reflected by ratings for different aspects of communication) would demonstrate better adjustment when compared to parents and children who communicated in a more limited, closed manner.

The following predictions were made:

(a) Children who experienced open communication would experience less depression and anxiety, greater self-esteem, greater sense of control, closer family relationships, better social and behavioral functioning, and more social support when compared to children who experienced less open communication.

(b) Parents who openly communicated with their child about the cancer experience would experience better personal, marital, and family functioning; a closer relationship with the child; and more social support when compared to parents who communicated less openly.

(c) Emotional communication would relate significantly more strongly to adjustment than would informational communication (given previous suggestions that communication of emotions is more closely associated with child adjustment than is communication of information).

Benefits of the Present Study

It is believed that the findings from the present study would be conceptually and clinically beneficial in several ways. First, they would allow better description of the complexities of communication about the cancer

experience that occur between parents and the child with cancer. Second, findings would help identify factors related to communication patterns about the cancer experience. Third, particular aspects of communication that most strongly relate to optimal adaptation would be identified. Finally, overall results would enhance development of clinical guidelines with which to inform and counsel families concerning parent-child communication about the cancer experience.

Method

Subjects

Thirty-five parent-child pairs with children receiving treatment for cancer at a major children's medical center in the Pacific Northwest were recruited for the study. The recruitment period extended from January 1994 to April 1995. Eligibility criteria for the children included (a) diagnosis of any type of cancer except tumors of the nervous system; (b) age 9-18 years; (c) receiving treatment; (d) maximum 2-1/2 years since diagnosis; (e) English-speaking; and (f) in sufficiently good medical condition to be able to complete questionnaires and respond to oral interviews. One parent participated from each family. For two-parent families, the parent self-designated as the primary caretaker of the child and the most involved in the child's medical care was asked to participate.

Demographic characteristics of the subject sample are presented in Table 1. There were 24 boys (69%) and 11 girls (31%) ranging in age from 9 to 18 years with a mean age of 12.2 years. The majority of children had diagnoses of acute lymphocytic leukemia ($n = 13$; 37%) with the remainder involving diagnoses of lymphoma ($n = 6$; 17%), Ewing's sarcoma ($n = 5$; 14%), osteosarcoma ($n = 3$; 9%), rhabdomyosarcoma ($n = 3$; 9%), acute myelogenous leukemia ($n = 2$; 6%), epithelioid sarcoma ($n = 1$; 3%), adrenal carcinoma ($n = 1$; 3%), and peripheral neuroectodermal tumor ($n = 1$; 3%). The mean age of children at diagnosis was 11.7 years. The majority of children's disease severity was distal (63%) with 31% of children having regional severity and 6% having localized severity. Medical risk was split with 49% of children at low risk and 51% of children at high risk. Time since diagnosis ranged from 1

to 28 months with a mean time of 5.9 months and median time of 5.0 months. Six children (17%) had experienced one or more relapses. Thirty-one mothers (89%) and 4 fathers (11%) participated, with ages ranging from 28 to 49 years ($M = 38.4$ years). The majority of parents (80%) were married or in a long-term relationship; 20% of the parents were divorced and single-parenting. Most parents (73%) had completed some college education, specialized training, or attained a higher degree. The majority of families were Caucasian (89%) with the remainder being African-American, Hispanic, and Native-American. Families came from a range of socioeconomic backgrounds with the majority middle class. Primary religious orientations endorsed by parents were no religion (29%), Christian (27%), Catholic (21%), Protestant (9%), and other religions (15%). There were one to seven other children in the families ($M = 2.8$) with the children involved in the study occupying varying age positions within the family (41% oldest child; 24% a middle child; 24% youngest child; 12% only child). Twenty-four children (69%) had never received psychological treatment services and twenty-one parents (60%) had never received psychological services. Most parent-child pairs were mother-son pairings (57%) followed by mother-daughter pairings (31%) and father-son pairings (11%); there were no father-daughter pairings.

Procedure

All procedures adhered to the guidelines established by the medical center's institutional review board. Potential parent-child pairs which met the inclusion criteria were approached by clinic or study staff during their scheduled outpatient or inpatient visits and given an informational letter describing the purpose and procedures of the study. Those families willing to

participate or wanting further information about the study returned this form giving permission for them to be further contacted. Families who were interested upon further contact were scheduled for the study. Whenever possible, participation in the study was scheduled to coincide with visits to the medical center. Twenty-five families were seen during an outpatient visit, 6 families were seen during an inpatient stay, 3 families were seen in the Ronald McDonald house, and 1 family was seen in the home. Consent rate for participation was 87% with five families declining participation. Reasons for declining participation varied from not being interested in the focus of the study to not wanting to commit the time to participate in the study.

At the appointment for the study, consent forms were reviewed with, read by, and signed by the parents and children. The parents and children then participated separately in a semi-structured interview (approximately 30 minutes) and afterwards completed self-report questionnaires (approximately 45 minutes). Questionnaires were always completed following the interview so as not to sensitize the parents or children to issues that may have biased responding in the interview. Questionnaires were read aloud to younger children or those children who had difficulty reading the items; children who could read and complete the questionnaires without observable difficulty were allowed to independently complete them. Parents and children were reminded that they could refrain from responding to any question and could stop participating in the study at any time. Participants were paid \$10 for their participation in the study.

Participation occurred over one to two sessions depending upon time constraints and wishes of the parent-child pair. Interviews were audiotaped for later transcription and coding. Interviews were not videotaped in order to better facilitate a non-threatening atmosphere and to thereby attract a larger number of participants who may otherwise have refused to be videotaped. Two doctoral-level child clinical psychology students and one clinic staff person with undergraduate psychology experience were involved in administering the procedures of the study. One person typically administered procedures for a given family. The study was piloted with two parent-child pairs who fulfilled the same criteria for subjects as described above.

Measures

Measure of Demographic Information

Demographic Information Form (see Appendix A). This measure requested information regarding age, birthdate, gender, and ethnic background of the child; the number, genders, and ages of other children in the family; the age, gender, ethnic background, religious identification, and marital status of the parent; educational attainment and occupation of both the parent and spouse/partner (when applicable); and whether the child or parent had ever received psychological services and the nature of those services. The Nakao and Treas (1992) socioeconomic index of occupation was used to calculate family socioeconomic status.

Illness Information Measures

1. Medical Information Form (see Appendix B). Information gathered from the medical records was completed by the interviewer regarding the specific cancer diagnosis of the child; the disease severity rating at time of

diagnosis; disease risk based on current treatment protocol; the age of the child at diagnosis; the date of diagnosis; the time elapsed since diagnosis; the current medical status (active, relapse, in remission); the number of relapses; and treatments received.

Measures Assessing Parent-Child Communication

1. Parent and child interviews. Interviews with the parent (see Appendix C) and child (see Appendix D) consisted of a series of questions about various aspects of communication between the parent and child about the child's cancer and illness experience. Some questions were based on those used in prior studies (Chesler et al., 1986; Clafin & Barbarin, 1991; Cohen et al., 1989; Spinetta et al., 1981). Both parent and child were asked to respond to questions about their own and the other person's communication.

Aspects of communication examined in the interviews included: (a) communication of factual information about the cancer experience (e.g., discussion of diagnosis, prognosis, and treatments; frequency of discussions; perceived openness of such communication); (b) communication of emotions about the cancer experience (e.g., frequency of such communication; extent to which feelings are expressed verbally versus nonverbally; perceived openness of such communication); (c) process of communication (e.g., frequency, amount of discussion/expression as stated above; who initiates discussions; changes in communication since diagnosis); and (d) attitudes toward the communication (e.g., willingness to engage in discussion; satisfaction with communication; changes desired in communication; importance placed on communication as coping means). Additional questions addressed the closeness of the parent-child relationship and changes in relationship since

diagnosis; and the openness of, and satisfaction with, communication by the medical doctors involved. Appropriate follow-up questions were asked to more specifically assess aspects that were not spontaneously discussed by the parent or child.

The parent and child were informed of the possible categorical or point scale rating options for each interview item, and their responses were rated accordingly. The rating system was in part based on prior research in this area (Chesler et al., 1986; Claflin & Barbarin, 1991; Cohen et al., 1989; Spinetta et al., 1981). Particular items were interpreted in relation to a theoretical continuum of communication, with one rating endpoint representing an informationally- and emotionally-closed style of communication and the other rating endpoint representing an informationally- and emotionally-open style of communication. Patterns of communication were described based on response patterns for several aspects of communication.

2. Interviewer and nurse ratings (see Appendix E). After the assessment for a given family, the interviewer and the clinical nurse specialist working with the family each completed a 4-item measure of the openness of the climate for communication by rating the child and parent regarding openness of factual communication and openness of communication of emotions. These items and rating format were identical to those given to the parent and child in the interview. Interrater reliability for interviewers on the 4-item measure was calculated on a randomly-selected 20% of the openness ratings, using comparison to a rater serving as the standard. Intraclass correlations (Bartko & Carpenter, 1976; Shrout & Fleiss, 1979) confirmed interviewer reliability (ICC's = .36 to .44, $p < .05$).

Measures Assessing Child Functioning

Children completed self-report measures assessing their anxiety; social acceptance; self-worth; locus of control; family cohesion, expressiveness, and conflict; and social support, support providers, support satisfaction, and extent of support seeking. In addition, a parent-completed measure assessed the degree of a child's internalizing and externalizing behaviors, depression/anxiety, withdrawal, and aggression. The nurse completed a summary rating of the child's overall adjustment.

1. Children's Manifest Anxiety Scale - Revised (CMAS-R; Reynolds & Richmond, 1978, 1985; see Appendix F). This measure of generalized anxiety consists of 28 anxiety-related items and 9 items that constitute a "lie" scale. The child answers "yes" or "no" to an item that relates to a symptom of anxiety. Three subscale scores and an overall anxiety score from 0 to 28 are obtained. For the purposes of this study, only the overall score was used in the data analysis. Acceptable internal consistency, test-retest reliability, and validity have been demonstrated (Reynolds & Richmond, 1985).

2. Self-Perception Profile for Children; Self-Perception Profile for Adolescents (SPP-C, SPP-A; Harter, 1985, 1986; see Appendix G). The child version of this measure (for children 12 years old and younger) assesses perceptions of competence and self-worth in six subscale areas: scholastic competence, social acceptance, athletic competence, physical appearance, behavioral conduct, and global self-worth. The adolescent version of this measure additionally assesses job competence, romantic appeal, and close friendships. Only the social acceptance and global self-worth subscales (12 items total for the child version; 10 items total for the adolescent version)

were administered in this study. Scores based on each version were calculated based on the same-items across each version. Adequate reliability and validity of the SPP-C and SPP-A have been reported (Harter, 1985, 1986) and the measures have been frequently used with pediatric patient populations (Hanson et al., 1990).

3. Nowicki-Strickland Internal-External Locus of Control Scale for Children (N-S LOCS; Nowicki & Strickland, 1973; see Appendix H). This generalized locus of control measure is designed for children in 3rd through 12th grade and consists of 40 items to which the child responds yes or no. The items assess the child's belief in reinforcement across interpersonal and motivational areas. A total score is obtained with higher scores reflecting an external orientation and lower scores reflecting an internal orientation. Adequate internal consistency, test-retest reliability, and construct validity have been demonstrated (Nowicki & Strickland, 1973).

4. Family Environment Scale (FES; Moos & Moos, 1980; see Appendix I). This 90-item true-false questionnaire assesses interpersonal relationships and family functioning. Three domains of the family environment are assessed by 10 subscales. For the purposes of this study, only the three subscales (cohesion, expressiveness, and conflict; 27 items total) of the Relationships domain were administered. The FES is a well-validated measure that has been widely used in studies of children with chronic illness.

5. Social Support Rating Scale - Revised (SSRS-R; Cauce, Ptacek, Mason, & Smith, 1992; see Appendix J). On this measure, the child indicates on a 5-point Likert type scale the extent to which persons (e.g., family, friends) provide caring/emotional support and help/guidance, and the extent to

which each person may have upset them. The child also indicates on a 7-point Likert-type scale for each of the above areas the extent to which he/she is satisfied with the support received and the extent to which he/she is the sort of person who seeks help. For this study, only the caring/emotional support and help/guidance subscales were administered. The SSRS-R has been shown to be an efficient, reliable, and valid measure of perceived support (Cauce et al., 1992) and has been employed with pediatric cancer patients (Kazak & Meadows, 1989).

6. Child Behavior Checklist (Achenbach, 1991; not included in Appendices due to copyright restrictions). This measure assesses social, academic, and behavioral functioning in children and adolescents aged 4 to 18 years. In the Behavior Problems section of the CBCL, 118 items describe behavior problems and are each scored on a 3-point scale. These items yield a total behavior problem score, two broad-band factor scores reflecting internalizing and externalizing behavior problems, and several behavior problem subscales. Standardized T scores based on appropriate age and sex group norms can be calculated. This study examined the Internalizing and Externalizing broad-band scores and the Anxiety/Depression narrow-band score.

Parent report of child depression rather than child self-report was used because of findings that children with cancer tend to significantly underreport depressive symptoms relative to parent and nurse ratings of the child's depression (Worchel et al., 1988). The psychometric properties of the CBCL have been well-established in several studies (e.g., Cohen, Gottlieb, Kershner, & Wehrspann, 1985), and the CBCL has been the most frequently used

measure of psychological adjustment in research with pediatric cancer patients (Mulhern, Wasserman, Friedman, & Fairclough, 1989; Sawyer, Toogood, Rice, Haskell, & Baghurst, 1989; Worchel et al., 1988).

However, it has been recognized that caution should be exercised when using the CBCL in research regarding children with a chronic illness (Drotar, Stein, & Perrin, 1995; Perrin, Stein, & Drotar, 1991). Because standardization for the CBCL involved a sample of children who did not have a recent mental health referral, it has been noted that comparison of children with a chronic illness to the standardization sample may result in higher frequencies of behavioral symptoms being identified in the sample of ill children. Furthermore, data (e.g., broadband or total scores) based on physical symptom items should be carefully interpreted in order to avoid making erroneous overstatements about the level of psychopathology in children with cancer. In addition, it has been noted that the CBCL was validated specifically to identify psychopathology and therefore may be less sensitive in detecting variations in behavioral symptoms in the normal range. Hence, these limitations were considered in interpretation of CBCL data for this study.

7. Nurse Rating (see Appendix E). The primary clinical nurse specialist involved with the child completed a single rating of the child's overall adjustment on a 1 (very poor adjustment) to 4 (very good adjustment) scale.

Measures Assessing Parent Functioning

Parents completed self-report measures assessing their depression, anxiety, and general psychopathology; marital adjustment; family cohesion, expressiveness, and conflict; and social support and support satisfaction. In

addition, the nurse involved with the family completed a summary rating of the parent's overall adjustment.

1. Brief Symptom Inventory (BSI; Derogatis & Spencer, 1982; not included in Appendices due to copyright restriction). This measure is a 53-item shortened version of the Symptom Checklist (SCL-90; Derogatis, 1983) and assesses psychological distress. The BSI is comprised of nine clinical scales as well as three global indices of distress. For the purposes of this study, only the General Severity Index score (global summary severity score across all items) was used in the data analysis. Adequate internal consistency and test-retest reliability have been demonstrated for the BSI (Derogatis & Spencer, 1982) and norms for a nonpsychiatric sample are available.

2. Locke-Wallace Marital Adjustment Scale (MAS; Locke & Wallace, 1959; see Appendix K). This 15-item scale is a widely-used measure of marital adjustment which yields a total score of marital adjustment. Adequate reliability and validity have been shown for the MAS.

3. Family Environment Scale (FES; Moos & Moos, 1980; see Appendix D). Information about the FES is described above. The parent completed a version identical to the child's which consisted of the three subscales (cohesion, expressiveness, and conflict; 27 items total) of the Relationships domain.

4. Social Support Questionnaire - 6-Item Form (SSQ6; Sarason, Sarason, Shearin, & Pierce, 1987; see Appendix L). This measure assesses perceived availability of and satisfaction with social support. The SSQ6 consists of six questions which each describe a situation and asks for a list of supportive persons and a rating of satisfaction on a 6-point Likert scale. A number score

(mean number of support providers listed), satisfaction score (mean satisfaction rating) and percentage score of providers who are family can be calculated. The SSQ6 is a shortened version of the long (27-item) form of the Social Support Questionnaire (SSQ, Sarason, Levine, Basham, & Sarason, 1983), which has been used in a variety of clinical settings. The SSQ6 and SSQ are highly correlated and demonstrate good reliability and validity (Sarason & Sarason, 1986; Sarason et al., 1983, 1987).

5. Nurse Rating (see Appendix E). The primary clinical nurse specialist involved with the family completed a single rating of the parent's overall adjustment on a 1 (very poor adjustment) to 4 (very good adjustment) scale.

TABLE 1**Sample Characteristics**

Variable	<u>M</u>	<u>SD</u>	<u>Range</u>	<u>%</u>
Gender of child				
Male				68.6
Female				31.4
Age of child (years)	12.2	2.2	9 - 18	
Diagnosis				
Acute lymphocytic leukemia				37.1
Lymphoma				17.2
Ewings sarcoma				14.3
Osteosarcoma				8.6
Rhabdomyosarcoma				8.6
Acute myelogenous leukemia				5.7
Epitheleoid sarcoma				2.9
Adrenal carcinoma				2.9
Peripheral neuroectodermal tumor				2.9
Child's age at diagnosis	11.7	2.4	8 - 18	
Disease severity				
Localized				5.7
Regional				31.4
Distal			-	62.9
Medical risk				
Low				48.6
High				51.4
Time since diagnosis (months)	5.9	5.8	1 - 28	
Median time: 5.0				
Relapse history				
None				82.9
One				14.3
More than one				2.9

TABLE 1 (continued)

Variable	<u>M</u>	<u>SD</u>	<u>Range</u>	<u>%</u>
Gender of parent				
Male				11.4
Female				88.6
Age of parent	38.4	5.4	29 - 49	
Marital status				
Married/Long-term relationship				80.0
Divorced				20.0
Single/Never married				0.0
Widowed				0.0
Parent's education				
Not finished high school				3.0
Completed high school				24.2
Some college/Specialized training				45.5
College degree				18.2
Graduate degree				9.1
Ethnicity				
Caucasian				88.6
Other				11.4
Family socioeconomic status ^a	52.8	20.1	30.0 - 90.1	
Religion				
None				29.4
Christian				26.5
Catholic				20.6
Protestant				8.8
Other				14.7
Number of children in family	2.8	1.3	1 - 7	

TABLE 1 (continued)

Variable	<u>M</u>	<u>SD</u>	<u>Range</u>	<u>%</u>
Position of child in family				
Oldest				41.2
In the middle				23.5
Youngest				23.5
Only				11.8
Child's prior psychological treatment				
None				68.6
Yes (before diagnosis)				20.0
Yes (after diagnosis)				11.4
Parent's prior psychological treatment				
None				60.0
Yes (before diagnosis)				25.7
Yes (after diagnosis)				14.3
Gender combination of parent-child pairing				
Mother-Son				57.1
Mother-Daughter				31.4
Father-Son				11.4
Father-Daughter				0.0

^aBased on the Nakao and Treas (1992) socioeconomic index of occupation scaled 0 -100 with higher numbers representing higher SES.

Results

All results refer to communication between parent and child about the cancer experience, unless otherwise specified. For the sake of syntactical clarity, constructs will also be referred to as the following: communication about information as "informational communication" and communication about emotions as "emotional communication"; openness of communication about information as "informational openness" and openness of communication about emotions as "emotional openness"; and frequency of informational communication as "informational frequency" and frequency of emotional communication as "emotional frequency."

I. Descriptive Information about Communication

First, general descriptive information (Aim #1) will be presented regarding (a) children's and parents' responses about communication, (b) relationships among communication variables, and (c) factor analytic relationships among openness of communication variables. Next, results of analyses addressing specific hypotheses will be presented regarding (a) differences in openness and in frequency of communication, (b) differences between informational communication and emotional communication, (c) differences between children's and parents' communication, and (d) differences between children's report of communication and parents' report of communication.

Responses to Communication Items

The percentages of children and parents responding to interview items regarding their communication are presented in Table 2.

Openness of communication. Both children and parents reported children to be mostly open or very open in their communication about information (88.2% for child report; 88.5% for parent report) and emotions (67.6% for child report; 82.9% for parent report). Children and parents also reported parents to be mostly open or very open in their communication about information (93.9% for child report; 97.1% for parent report) and emotions (78.8% for child report; 85.7% for parent report).

Frequency of communication. Children reported communication about information to occur at varied frequencies with rarely (40.0%), often (22.9%), and most of the time (34.3%) all being endorsed; only one child stated communication about information never occurred. In contrast, a majority of parents (80.0%) stated communication about information occurred often or most of the time.

Most children and parents reported that children (74.3% for child report; 68.6% for parent report) engaged in communication about children's emotions rarely or never. Most children (91.4%) similarly reported their parents to rarely or never engage in communication about the parent's emotions; however, parents reported communicating about their own emotions both often or most of the time (51.4%) as well as never or rarely (48.6%).

Other communication variables. Almost all children and parents reported children to be very willing (54.3% for child report; 62.9% for parent report) or at least somewhat willing (37.1% for child report; 25.7% for parent report) to engage in communication. Almost all children and parents similarly described parents to be very willing (74.3% for child report; 80.0% for

parent report) or somewhat willing (22.9% for child report; 14.3% for parent report) to engage in communication.

Children's reports of who usually started discussions were divided among both children and parents serving as equal initiators (37.1%), children as primary initiators (34.3%), and parents as primary initiators (28.6%). Parents primarily reported themselves as initiators of discussions (51.4%), but also reported children as initiators (14.3%) and both they and their child as equal initiators (34.3%).

Regarding the asking and answering of questions, most children (71%) and parents (82.9%) reported that children routinely asked their parents questions related to the cancer experience. All children and parents reported that those parents who were asked questions all gave a "best/honest" answer to the questions and that no parents gave no or minimal answers.

All but one child (97.1%) and all but two parents (94.3%) said that the parents asked children questions about the cancer experience. Of these children who were asked questions, most (69.7% for child report; 71.9% for parent report) were reported to give a "best/honest" answer to the parents' questions. The remaining children were reported to answer with quality depending on the parents' questions (21.2% for child report; 18.8% for parent report) or to answer minimally (9.1% for child report; 9.4% for parent report).

Almost half of the children (48.6%) and 42.9% of the parents reported children to communicate their emotions verbally about things related to the cancer experience; almost one-third (31.4%) of the children and over one-third of the parents (37.1%) said children communicated their emotions more nonverbally than with words. The remaining children (20% for both child

and parent report) were described as communicating their emotions equally verbally and nonverbally.

The majority of children (57.1%) and parents (57.1%) reported parents to use primarily verbal means to communicate their emotions to their children. Over one-fourth of the children (25.7%) and 20% of the parents stated parents used mostly nonverbal means to communicate emotions. The remaining parents (17.1% for child report; 22.9% for parent report) were described as communicating their emotions equally verbally and nonverbally.

Regarding changes in communication since diagnosis, children generally reported communication about the cancer experience to have not changed or to have decreased (40.0% and 40.0%, respectively) since diagnosis with 20% of the children reporting increased communication. Parents most frequently reported no change (45.7%) with 28.6% reporting communication to have decreased and 25.7% reporting it to have increased. Parent-child communication about non-cancer related things was reported to have mostly shown no change (74.3% for child report; 48.6% for parent report) or to have increased (22.9% for child report; 51.4% for parent report).

Over three-fourths of the children (76.5%) stated being very satisfied with the communication and believed their parents to be very satisfied as well (81.8%). No children reported themselves or their parents to be not satisfied. When asked if they would want to change anything regarding the communication, almost three-fourths of the children (73.5%) said they would not and most children (61.8%) said they thought their parents would also not want to change something.

Over three-fourths of the parents (77.1%) believed their children to be very satisfied with the communication and 20.0% reported their children to be somewhat satisfied. Similarly, over three-fourths of the parents (77.1%) stated themselves to be very satisfied with the communication; only one parent reported both herself and the child to be not satisfied with the communication. When asked if their children would want to change anything about the communication, 68.6% of the parents reported they would not and 20.0% said they would (11.4% said they did not know). Regarding themselves, 77.1% of the parents reported they would not want to make any changes in the communication and 22.9% said they would.

The majority of children rated communication about the cancer experience as very important (55.9%) or somewhat important (29.4%) to the parent-child relationship. Five children (14.7%) rated communication as not important to the relationship. The majority of children said that such communication was very helpful (67.6%) or somewhat helpful (29.4%) as a coping means for themselves, and only one child said such communication was not helpful as a means of coping. All but one parent rated the communication as very important (74.3%) or somewhat important (22.9%) to the parent-child relationship. Almost all parents (91.4%) said that the communication was very helpful as a means of coping for themselves.

Relationships Between Communication Variables

Openness of communication (Table 3). Children's and parents' openness were significantly correlated as were informational and emotional openness (r 's = .40 to .75, $p < .05$ for child-reported openness; r 's = .41 to .62, $p < .05$ for parent-reported openness).

Frequency of communication (Table 4). Children's and parents' emotional frequencies were significantly correlated ($r = .62, p < .01$ for child report; $r = .37, p < .05$ for parent report). For child report, informational frequency showed a significant relationship with children's emotional frequency ($r = .34, p < .05$), but showed no significant relationship with parents' emotional frequency. For parent report, informational frequency showed no significant relationships with children's or parents' emotional frequencies.

Relationships between openness and frequency (Table 5). Child report revealed the following: (a) children's openness (whether informational or emotional) and parents' emotional openness all showed significant relationships with children's emotional frequency (r 's = .39 to .56, $p < .05$); (b) children's and parents' emotional openness showed significant relationship with parents' emotional frequency (r 's = .33 and .46, $p < .01$); and (c) no significant relationships existed between informational or emotional openness and informational frequency. Unlike with child report, parent report revealed no significant relationships between openness and frequency of communication.

Relationships of openness to other communication variables (Table 6). Child report revealed the following: (a) children's openness (informational and emotional) showed significant relationships with children's and parents' willingness to engage in communication (r 's = .41 to .61, $p < .05$) and with how helpful children found the parent-child communication as a coping means (r 's = .37 and .41, respectively, $p < .05$); and (b) parent's openness (informational and emotional) showed significant correlation with parents'

willingness to engage in communication (r 's = .64 and .45, respectively, $p < .01$).

Parent report revealed that: (a) children's openness, (informational and emotional) showed significant relationships with children's willingness to communicate and with their satisfaction with communication (r 's = .45 to .69, $p < .01$); (b) parents' informational openness showed significant relationship as well with parents' willingness to communicate ($r = .40$, $p < .05$) and with both children's and parents' satisfaction with the communication (r 's = .57, $p < .01$); and (c) significant correlations were evident between children's emotional openness and parents' satisfaction ($r = .34$, $p < .05$), and between parents' emotional openness and children's willingness to communicate ($r = .51$, $p < .01$).

Relationships of frequency to other communication variables (Table 7).

Child report revealed that: (a) children's and parents' informational and emotional frequencies were all significantly correlated with how important children felt communication was to the parent-child relationship (r 's = .36 to .46, $p < .05$); (b) children's and parents' emotional frequencies were also significantly related to how helpful children found communication as a coping means (r 's = .35 and .35, $p < .05$); and (c) surprisingly, frequency of communication (whether about information or emotions) showed no significant correlations with children's or parents' communicative willingness or with children's or parents' satisfaction with communication.

Parent report revealed that, as with the child's report, informational frequency showed few significant relationships with other communication variables; the single significant correlation was with helpfulness of

communication as a coping means ($r = .38, p < .05$). Instead, emotional frequency showed significant relationships with other variables: (a) how often children and parents communicated about their emotions with each other correlated highly with each other ($r = .37, p < .05$); (b) how often children communicated about emotions correlated highly with how willing children were to engage in communication ($r = .38, p < .05$); and (c) how often parents communicated their emotions showed significant relationship to parents' satisfaction with the communication ($r = .36, p < .05$).

Relationships between other communication variables (Table 8).

Child report revealed the following relationships: (a) willingness and satisfaction variables were moderately positively intercorrelated; (b) children's willingness to communicate and parents' willingness to communicate both showed a significant relationship with children's satisfaction with the communication (r 's = .40 and .36, $p < .05$); (c) children's satisfaction and parents' satisfaction were significantly correlated as well ($r = .39, p < .05$); and (d) children's willingness to engage in communication positively related to how helpful children perceived communication as a coping means ($r = .45, p < .01$).

Parent report revealed the following significant relationships: (a) intercorrelation between children's and parents' willingness to communicate with each other ($r = .50, p < .01$) and between children's and parents' satisfaction with the communication ($r = .88, p < .01$) and (b) positive relationships of willingness to communicate with how important parents found communication to be to the parent-child relationship ($r = .50$ for children's willingness, $p < .01$; and $r = .45$ for parents' willingness, $p < .01$) and

with how helpful parents found communication as a coping means ($r = .36$, $p < .05$ for parents' willingness)

Factor Analyses of Openness of Communication Variables

Factor analyses of the openness of communication variables were performed in order to better explore associations among the variables, especially given their high intercorrelations with one another, and to see what coherent groupings might emerge. Plausible conceptual groupings for variables included grouping by rater (child vs. parent), by content (informational vs. emotional openness), or by subject person (about the child vs. about the parent). The eight openness of communication variables listed in Table 3 were included in the analyses; results can be found in Table 9. All factor analyses were performed with principal factors extraction and with oblimin rotation (due to expected intercorrelations between factors).

First, factor analysis was performed on all of the children's and parents' openness of communication ratings together. Results suggested a two- or three- factor model. A two-factor model indicated factors of (1) ratings by parent and (2) ratings by child. A three-factor model suggested the factors of (1) ratings by parent, (2) ratings by child about the child, and (3) ratings by child about the parent; hence an effect for rater and subject person was observed. Further factor analyses examining ratings made by just the adults (parent, nurse, and interviewer) resulted in two factors: (1) ratings by parent and by interviewer and (2) ratings by nurse. Finally, factor analysis of ratings made by all individuals (child, parent, nurse, and interviewer) resulted in four clear factors representing (1) ratings by parent and by interviewer, (2) ratings by nurse, (3) ratings by child about the child, and (4) ratings by child

about the parent. A five-factor model which could also be construed showed some evidence of informational openness factoring apart from emotional openness.

Overall, the factor analyses findings suggest grouping by rater with some indication of grouping by subject person and by content of communication. The factors of communication that were identified were not further used in the study, despite their probable utility in reducing the number of variables involved, because they did not represent the specific conceptual questions the study was designed to address (e.g., examination of informational communication apart from emotional communication).

Differences in Openness and Frequency of Communication

To test the hypothesis (#1a) that the majority of children and parents would describe communication to be open and frequent rather than closed and infrequent, openness and frequency ratings (see Table 10 for means) were subjected to one-sample t -tests.

Openness. Two sets of analyses were run: one set for informational openness ratings and one set for emotional openness ratings. Each set involved four analyses: children's ratings of selves and parents and parents' ratings of selves and children. Bonferroni's method was used to control for the experiment-wise error rate for the number of analyses in each set (p -value set at .0125).

In all of the comparisons, communication was rated as more open than closed. Results were significant for seven of the total eight analyses at $p < .0001$ (for informational openness: children's ratings of themselves, $t(33) = 6.09$; children's ratings of their parents $t(32) = 8.45$; parents' ratings of their

children, $t(34) = 9.37$; parents' ratings of themselves, $t(34) = 17.46$) (for emotional openness: children's ratings of their parents, $t(32) = 4.49$; parents' ratings of their children, $t(34) = 4.17$; parents' ratings of themselves, $t(34) = 6.22$). Children's ratings of their own emotional openness did not reach significance using the corrected p -value, $t(33) = 2.47$, $p < .05$.

Frequency. Two sets of analyses were run: one set for informational frequency and one set for emotional frequency. The informational frequency set involved two analyses: ratings by children and ratings by parents. The emotional frequency set involved four analyses: children's ratings of selves and parents and parents' ratings of selves and children. Bonferroni's method was used to control for the experiment-wise error rate for the number of analyses in each set (p -value set at .025 for informational frequency and .0125 for emotional frequency).

Results were significant for informational frequency, whether rated by children, $t(34) = 2.45$, $p < .025$, or by parents, $t(34) = 6.74$, $p < .001$; communication about information was rated to be more frequent than infrequent. Results were significant for emotional frequency only regarding children's ratings about their parents, $t(34) = -5.57$, $p < .001$; children rated their parents to be more infrequent than frequent in emotional communication. Results were not significant regarding emotional frequency rated by children about themselves, rated by parents about themselves, or rated by parents about their children.

Summary. The hypothesis that children and parents would describe themselves and each other to be more open than closed in their informational and their emotional communication was hence well

supported (with the exception of children's perception of their own emotional openness). The hypothesis that children and parents would describe themselves and each other to be more frequent than infrequent in their communication was supported regarding informational frequency but only partially supported regarding emotional frequency (child's report of parent's).

Differences between Informational Communication and Emotional Communication

To test the hypothesis (#1b) that informational communication would differ from emotional communication in openness and frequency, the following analyses were undertaken.

Openness. Four paired comparison *t*-tests were performed (using Bonferroni's correctional method for error rate) to test for differences between informational openness and emotional openness using child and parent ratings of themselves and the other person (see Table 10 for means). Difference scores were calculated for each of the child and parent ratings of openness of communication by subtracting the rating of emotional openness from the rating of informational openness, and these difference scores were compared to zero. In all of the comparisons, informational communication was rated as significantly more open than emotional communication. Results were significant at $p < .01$ for children's ratings of themselves, $t(33) = -2.98$; children's ratings of their parents, $t(32) = -3.44$; parents' ratings of themselves, $t(43) = -4.36$; and parents' ratings of their children, $t(34) = -2.59$.

Two single-sample multivariate analyses of variance were also conducted, first with child rater as the defined sample and then with parent

rater as the sample; openness of communication variables served as the four dependent variables (child's informational openness, child's emotional openness, parent's informational openness, parent's emotional openness) in each analysis. Results showed significant differences across the openness of communication variables when rated by the child ($F(3,30) = 4.29, p < .05$) and when rated by the parent ($F(3,32) = 7.77, p < .001$). In both cases contrasts were significant for children's informational openness being significantly higher than children's emotional openness ($F(1,32) = 7.65, p < .01$ for child report; $F(1,34) = 6.70, p < .05$ for parent report) and for parents' informational openness being significantly higher than parents' emotional openness ($F(1,32) = 11.84, p < .01$ for child report; $F(1,34) = 20.66, p < .001$ for parent report).

Frequency. Four paired comparison t -tests were also performed (again with the Bonferroni correctional method for error rate) to test for differences between informational frequency and emotional frequency (see Table 10 for means). Frequency ratings of parent-child informational communication were compared to frequency ratings of children's emotional communication and to frequency ratings of parents' emotional communication. In all comparisons, communication of information was rated as more frequent than communication of emotions. Results were significant at $p < .001$ for all analyses, confirming that informational communication occurred more frequently than the children's or the parents' emotional communication.

Summary. The hypothesis that communication about information would differ from communication about emotions was confirmed for both of the domains explored: openness of communication and frequency of

communication. Individuals were more open and more frequent in their informational communication than in their emotional communication.

Differences between Children's Communication and Parents'

Communication

To test the hypothesis (#1c) that children and parents would differ from each other in their communication styles, ratings about the children's communication were compared to ratings about the parents' communication using paired comparison t -tests (see Table 10 for means). Child report and parent report were examined separately. Difference scores were calculated by subtracting ratings about the parent from ratings about the child, and these difference scores were compared to zero. Analyses only included variables coded on an interval scale for which ratings about both child and parent existed. The following analyses were done with respective Bonferroni corrections for error rate: two analyses for openness variables (informational openness and emotional openness), $p < .025$; one analysis for frequency variables (emotional frequency), $p < .05$; and three analyses for remaining communication variables (willingness to communicate, verbalness in communicating emotions, and satisfaction with communication), $p < .017$.

Child report. Children rated themselves as significantly more frequent communicators about emotions than they rated their parents to be, $t(34) = 2.53$, $p < .05$. No significant differences were found between children's ratings of themselves and their parents regarding informational openness, emotional openness, willingness to communicate, satisfaction with communication, or verbalness in communicating emotions (It should be noted that although differences for informational openness and willingness

to communicate were at $p < .05$, they did not meet the corrected level for significance). Percentages of children who rated themselves and their parents the same for any given communication item are shown in Table 11.

Parent report. Parents rated themselves as significantly more frequent in communicating about emotions than they rated their children to be. No significant differences were found between parents' ratings of themselves and their children regarding informational openness, emotional openness, willingness to communicate, satisfaction with communication, or verbalness in communicating emotions (It should be noted that although differences for informational openness, willingness to communicate, and verbalness in communicating emotions were at $p < .05$, they did not meet the corrected level for significance). Percentages of parents who rated themselves and their children the same for any given item are shown in Table 11.

Nonparticipating parent. Examination was made as well of differences between participating parents' communication and nonparticipating parents' communication, given the limitation of only one parent participating in the study. To do this, children's and parents' ratings of openness of communication between the children and the other parent not participating in the study ($n = 27$) were used. Openness ratings for nonparticipating parent-child pair appeared uniformly lower than openness ratings for the participating parent-child pair (see Table 10 for means). However, paired t -test comparisons of ratings of participating parent-child's communication to ratings of nonparticipating parent-child's communication revealed significant differences (with the Bonferroni corrected significance level, $p = .0125$) only according to parents' report, $t(27) = 3.23$ for informational

communication and $t(27) = 3.01$ for emotional communication, $p < .01$. Children's report revealed no significant differences between participating parent-child's openness and nonparticipating parent-child's openness. Associations between the participating parent-child's openness and the nonparticipating parent-child's openness showed seven out of eight possible correlations to be nonsignificant.

Summary. The hypothesis that children and parents would differ from each other in their communication styles was only supported regarding emotional frequency (parents rated themselves as discussing emotions more often while children rated themselves as discussing emotions more often). There were no differences for either child or parent report regarding informational openness, emotional openness, willingness to communicate, satisfaction with communication, or verbalness in communicating emotions. In addition, participating parents perceived themselves as significantly more open in their parent-child communication than the nonparticipating parent, but children did not perceive a difference between parents regarding openness.

Differences Between Reporters of Communication

Differences between reporters were examined as follows. First, hypothesized differences between children and reporters were examined. Then other comparisons between rater pairs were examined, although no hypotheses had been stated. Finally, raters as a group were examined.

Child report vs. parent report. To test the hypothesis (#1d) that children and parents would differ in their report of communication, children's and parents' ratings of the same communication items were

compared using paired comparison *t*-tests (see Table 10 for means). Difference scores were calculated by subtracting the ratings made by the parent from ratings made by the child, and these difference scores were compared to zero. Analyses only included variables coded on an interval scale.

The following sets of analyses were done with the respective Bonferroni correction for error rate for each set: four analyses for openness variables (child's informational openness, child's emotional openness, parent's informational openness, parent's emotional openness), $p < .0125$; three analyses for frequency variables (informational frequency, child's emotional frequency, parent's emotional frequency), $p < .017$; and ten analyses for remaining communication variables (as listed in Table 2) (willingness of child to communicate, willingness of parent to communicate, verbalness of child's emotional communication, verbalness of parent's emotional communication, change in cancer-related communication, change in non-cancer related communication, child's satisfaction with communication, parent's satisfaction with communication, importance of communication to the parent-child relationship, helpfulness of communication as a coping means), $p < .005$.

Regarding openness and frequency variables, in all comparisons parents' ratings were higher than children's ratings. Significant differences were found regarding informational frequency, $t(34) = -3.5$, $p < .001$, and parents' emotional frequency, $t(34) = -3.86$, $p < .001$. No significant differences were found regarding informational openness (children's or parents'), emotional openness (children's or parents'), or children's emotional frequency (It should be noted that although differences in

informational openness--children's and parents'--were at $p < .05$ level, they did not meet the corrected level for significance). No significant differences between children's and parents' ratings were evident for the remaining communication variables. Percentages of parent-child pairs in which the child and parent matched in their item responses are shown in Table 12.

Nurse report vs. child and parent reports. Ratings by the nurse about the child's and parent's openness of communication were compared to ratings by the child and to ratings by the parent using paired comparison t -tests (see Table 13 for means). Two sets of comparisons were done (nurses' ratings compared to children's ratings; nurses' ratings compared to parents' ratings). Each set involved four analyses comparing ratings on the four openness of communication variables (children's informational openness; children's emotional openness; parents' informational openness; parents' emotional openness). Difference scores were calculated by subtracting the ratings made by the children and the parents from ratings made by the nurses, and these difference scores were compared to zero. Each set of comparisons used the Bonferroni correctional method to adjust the significance level (p -value = .0125).

Paired t -test comparisons revealed no significant differences between nurses' and children's ratings for openness variables. Similarly, there were no significant differences between nurses' and parents' ratings for openness variables. Hence, the apparent tendency of nurses rating lower than children and parents for informational openness and nurses rating higher than children and parents for emotional openness was not supported statistically.

Correlations of nurses' ratings with children's ratings and with parents' ratings revealed no significant relationships (highest $r = .27$).

Interviewer report vs. child and parent reports. Ratings by the interviewer about the child's and parent's openness of communication were compared to ratings by the child and to ratings by the parent using paired comparison t -tests (see Table 13 for means). Two sets of comparisons were done (interviewers' ratings compared to children's ratings; interviewers' ratings compared to parents' ratings). Each set involved four analyses comparing ratings on the four openness of communication variables (children's informational openness; children's emotional openness; parents' informational openness; parents' emotional openness). Difference scores were calculated by subtracting the ratings made by the children and the parents from ratings made by the interviewers, and these difference scores were compared to zero. Each set of comparisons used the Bonferroni correctional method to adjust the significance level (p -value = .0125).

No statistically significant differences were observed between interviewers' and children's ratings for any openness variables or between interviewers' and parents' ratings for parents' openness (informational or emotional). Interviewers' and parents' ratings did differ significantly for children's openness, with interviewers rating lower than parents, $t(34) = 2.97$ for children's informational openness and $t(34) = 2.93$ for children's emotional openness, $p < .01$.

Correlations of interviewers' ratings with children's and with parents' ratings of openness were significant for seven of the eight possible correlations (r 's = .48 to .68, $p < .01$) (No significant relationship existed

between the interviewers' ratings and the children's ratings of parent informational openness).

Nurse report vs. interviewer report. Comparison of interviewers' and nurses' ratings for the four openness variables (using the Bonferroni correction of $p < .0125$ for significance level) revealed no significant differences; the difference in ratings of children's emotional openness at $p < .05$ was not significant given the number of comparisons made. Hence, the apparent tendency of nurses rating the highest of all reporters and interviewers rating the lowest of all reporters was not supported statistically. Correlations of interviewers' ratings with nurses' ratings revealed no significant relationships.

All reporters. Finally, raters were examined as a group for each of the openness variables. Four repeated measures analysis of variance were performed separately for each of the four openness of communication variables (i.e., children's informational openness, children's emotional openness, parents' informational openness, parents' emotional openness). Raters (child, parent, interviewer, nurse) served as the four dependent variables in each analysis. Results revealed no significant differences across raters in their ratings of the openness of communication variables.

Summary. The hypothesis of differences between child and parent report about the cancer experience was partially supported by differences found regarding informational frequency and parents' emotional frequency. However, results overall indicate considerable congruence between children's and parents' report about their communication. Children's and parents' ratings were consistent with one another regarding informational openness

(children's and parents'), emotional openness (children's and parents'), and children's emotional frequency. Children's and parents' ratings showed no differences with one another regarding informational openness (children's or parents'), emotional openness (children's or parents'), or children's emotional frequency. In addition, congruence regarding openness of communication was evident between nurse and child report, nurse and parent report, interviewer and child report, and interviewer and nurse report. Differences regarding openness of communication were evident between interviewer and parent report (for children's openness).

II. Relationship of Demographic, Social, and Medical Variables to Communication

To examine the relationship of demographic, social, and medical variables to communication (Aim #2), several analyses were performed.

First, separate MANOVA's were performed for each of the demographic/social/medical variables (Table 1) coded on a nominal scale. These variables were combination of genders in the parent-child dyads (e.g., mother-son, mother-daughter), religion, child's diagnosis, and place of assessment for the study. Each of these variables served as the independent variable in a MANOVA with four openness of communication variables as the group of dependent variables (child's informational openness as rated by child; child's emotional openness as rated by child; parent's informational openness as rated by parent; parent's emotional openness as rated by parent). MANOVA's were then repeated for each of the above demographic/social/medical variables using three frequency of communication variables as the group of dependent variables (frequency of

informational communication as rated by parent; frequency of child's emotional communication as rated by child; frequency of parent's emotional communication as rated by parent).

Next, remaining demographic/social/medical variables (coded on dichotomous or interval scales) were entered as sets into multiple regression analyses to examine their relationships to openness and frequency of communication. The variables were examined as three sets: demographic variables (child's gender, parent's gender, child's age, parent's age, ethnicity); social variables (number of children in the family, child's birth order in the family, parent's marital status, parent's education, SES, prior psychological treatment for the child, prior psychological treatment for the parent); and medical variables (disease severity, medical risk, time since diagnosis, relapse status). Dependent variables in the analyses were the same openness and frequency of communication variables as those employed in the previous MANOVA's. These variables were the four openness variables (child's informational openness as rated by child; child's emotional openness as rated by child; parent's informational openness as rated by parent; parent's emotional openness as rated by parent) and the three frequency variables (frequency of informational communication as rated by parent; frequency of child's emotional communication as rated by child; frequency of parent's emotional communication as rated by parent). Findings of regressions reaching significance can be found in Table 14.

Openness

The MANOVA analyses yielded nonsignificant results, indicating that combination of genders in the parent-child dyads, religious orientation, type

of cancer diagnosis, and location at which study was conducted did not significantly relate to openness of communication.

The regression analyses revealed that demographic variables as a set and medical variables as a set failed to relate to any of the openness variables. The social variables as a set fell short of significance ($p = .07$) in relating to parents' emotional openness (adjusted $R^2 = .20$) and did not relate significantly to children's emotional openness or to children's or parents' informational openness.

No demographic variables were independently significantly correlated with openness variables. Within the social variables set, birth order of the child in the family was the only variable significantly correlated with openness of communication ($r = .51$ for emotional openness of the child and $r = .55$ for emotional openness of the parent; $p < .01$); both the child's and the parent's openness of emotional communication increased as the child's birth order increased toward the child being the oldest or only child. Within the medical variables set, only number of relapses was significantly correlated with openness ($r = -.35$, $p < .05$ for children's informational openness); more relapses was associated with less communication about information by the child.

Frequency

The MANOVA analyses yielded nonsignificant results, indicating that gender of parent-child pairing, religious orientation, type of cancer diagnosis, and location at which study was conducted did not significantly relate to frequency of communication.

The regression analyses revealed that demographic variables as a set failed to relate to any of the frequency variables. However, the social variables as a set related significantly to children's emotional frequency, $F(7,25) = 2.75, p < .05$, accounting for 28% of the variance. The medical variables as a set related significantly to parent-child informational frequency, $F(4, 28) = 2.62, p < .05$, accounting for 17% of the variance.

No demographic variables were independently significantly correlated with openness variables. Within the social set, birth order and marital status showed significant correlations with frequency of communication (r 's = $-.38$ and $.38, p < .05$); children's emotional communication increased as children were the oldest/only children in their family and when the parent was not married and not engaged in a long-term relationship. Within the medical variables set, time since diagnosis and medical risk showed significant correlations with frequency of communication (r 's = $-.39$ and $.36, p < .05$); less time since diagnosis was associated with more frequent parent-child informational communication and higher medical risk was associated with increased emotional communication by parents.

Summary

The hypothesis that demographic/social/medical variables would relate to communication was supported only by some variables. Demographic/social/medical variables showed more numerous associations with frequency variables than with openness variables. Social variables as a set, medical variables as a set, child's birth order, parent's marital status, time since diagnosis, and medical risk all showed individual relationships with informational or emotional frequency variables.

Demographic/social/medical variables did not show significant relationships as sets with openness variables, although birth order of the child showed significant individual association with emotional openness of both children and parents.

III. Relationships Between Communication and Functioning

To examine how specific aspects of communication about the cancer experience differentially relate to child, parent, and family psychosocial adjustment (Aim #3), the following analyses were conducted. First, correlations were examined between openness of communication variables and functioning variables and between frequency of communication variables and functioning variables. Next, multiple regression analyses were performed in order to further examine the relationships of openness and frequency variables to functioning.

General indicators of child and parental psychiatric functioning indicated the sample was mostly in the nonclinical range. Regarding child functioning, all T-score means for the Child Behavior Checklist were within the normal range. No children had elevated (2 or more SDs above the mean) Externalizing Problem scores, three children (9%) had elevated Internalizing Problem scores, and three children (9%) had elevated Anxiety/Depression scores. Regarding parental functioning, the Brief Symptom Inventory's General Severity Index score mean for the sample was within the normal range; only three parents (9%) had elevated GSI scores.

Correlations: Openness of Communication With Functioning

Child and parent reports of openness. Openness variables primarily significantly related to family functioning (e.g., extent of cohesiveness,

expressiveness, conflict) and to social support; few significant relationships existed between openness variables and individual child or parent functioning (see Table 15 for means of functioning variables; see Table 16 for correlation results).

Regarding individual functioning, children's informational openness (as rated by the child) related to locus of control ($r = -.34, p < .05$), and parents' emotional openness (as rated by the child) related to general parental psychopathology ($r = -.36, p < .05$); children who were more informationally open appeared more internal in their locus of control, and parents who were more emotionally open rated themselves as less distressed.

Regarding family functioning, most significant correlations involved openness and family functioning variables as rated by the child. Informational openness (as rated by the child and regarding the child or parent) related to family cohesion and expressiveness (as rated by the child) (r 's = .36 to .44, $p < .05$). Informational openness (as rated by the parent regarding the child) also related to family conflict (as rated by the parent) ($r = -.41, p < .05$). Emotional openness (child's report of own and parent's report of own and of child's) related to parent-child closeness (as rated by the child) (r 's = .36 to .42, $p < .05$). Emotional openness (as rated by the child) also related to family cohesion (for parent's emotional openness) ($r = .49, p < .01$) and to expressiveness (for child's emotional openness) ($r = .38, p < .05$). Overall then and especially from the child perspective, the more open the communication, the generally more perceived cohesion and expressiveness within the family, the more parent-child closeness, and the less conflict.

Regarding social support, most significant correlations involved children's openness. Children's informational and emotional openness (as rated by the parent) were significantly associated with children's social support received from medical staff and with the extent to which children sought support (as rated by the child) (r 's = .37 to .44, $p < .05$). Children's informational and emotional openness (as rated by the child) also related significantly to how good children felt their support to be from their parents (r 's = .51, $p < .01$). Parents' informational openness (as rated by the parent) was associated with parents' satisfaction with social support (as rated by the parent) ($r = .37$, $p < .05$), and parents' emotional openness (as rated by the parent) was associated with children's satisfaction with social support (as rated by the child) ($r = .39$, $p < .05$). Children's report of their own emotional openness related inversely to parents' number of social supports (as rated by the parent) ($r = -.36$, $p < .05$); children who were more emotionally open had parents with fewer social supports.

No significant correlations were found between openness variables reported by children or parents and the following remaining functioning variables: (a) child functioning: anxiety, self-worth, social acceptance, internalizing behaviors, externalizing behaviors, anxiety/depression; (b) parent functioning: marital adjustment; (c) family functioning: conflict (child report), cohesion (parent report), expressiveness (parent report), closeness of relationship (parent report); and (d) social support: from mother, from father, from family, from formal sources, from friends, quality received by child (parent report).

Nurse and interviewer reports of openness. Associations of nurses' and interviewers' ratings of children's and parents' openness with functioning variables were examined (see Table 17). All nurses' openness ratings (about children's informational and emotional openness and about parents' informational and emotional openness) showed consistent significant positive correlations with nurses' ratings of child and parent functioning (r 's = .49 to .66, $p < .01$); being openly communicative was associated with having better adjustment. Also, nurses' informational openness ratings were significantly positively associated with children's social support from medical staff ($r = .38$, $p < .05$) (for children's informational openness) and quality of support from parents ($r = .51$, $p < .01$) (for parents' informational openness).

Interviewers' ratings of openness showed more significant relations with social support variables than did nurses' ratings. These significant relations included social support from the parent, from formal sources, and from medical staff; the extent of seeking support; and the satisfaction with support (r 's = .35 to .58, $p < .05$). Also, interviewers' ratings of child informational openness correlated significantly with family cohesion (as rated by the child) ($r = .38$, $p < .05$).

None of the remaining functioning variables listed in Table 15 were significantly correlated with openness of communication variables reported by nurses or interviewers.

Correlations: Frequency of Communication With Functioning

Frequency of communication yielded significant correlations with parental functioning, family functioning, and social support variables (see Table 18).

Regarding parental functioning, frequency variables significantly related only to marital functioning and to the nurses' ratings of general parental adjustment. Informational frequency and children's emotional frequency (as rated by the child) were significantly negatively correlated with parents' marital functioning ($r = -.42$ to $-.50$, $p < .05$ for both), and parents' emotional frequency (as rated by the parent) was significantly negatively correlated with nurses' ratings of parent functioning ($r = -.48$, $p < .05$); more frequent communication related to lower marital functioning and lower parental adjustment.

Regarding family functioning, frequency of informational communication (as rated by the parent) was inversely associated with conflict in the family ($r = -.41$, $p < .05$); more frequent communication related to less family conflict.

The most numerous significant correlations of frequency variables were with social support variables. Informational frequency and children's emotional frequency (as both rated by the child) were significantly positively correlated with quality of parental support children reported receiving (r 's = $.51$ for both; $p < .01$); more frequent communication related to greater quality of support. Parents' emotional frequency (as rated by the child) significantly related to social support children reported receiving from the father and from friends (as rated by the child) (r 's = $.38$ to $.43$, $p < .05$); more frequent emotional communication by parents related to children perceiving greater

support. Emotional frequency (children's as rated by the parent and parents' as rated by the child) significantly related to how much children sought support (as rated by the child) ($r = .34$ and $.43$, $p < .05$); more frequent emotional communication related to children seeking out support more.

Informational frequency (as rated by the child) showed a significant inverse relationship with the social support the child perceived receiving from the mother ($r = -.40$, $p < .05$); children who reported greater frequencies of parent-child communication about information experienced social support from their mother as less helpful. Similar inverse (but nonsignificant) relationships were also evident between frequency of informational communication and social support the child perceived receiving from the father. However, for both the social support from mother variable and the social support from father variable, the ranges and standard deviations were so small as to make any linear relationship limited.

No frequency variables were significantly correlated with child functioning. However, informational frequency (as rated by the child) showed association that just fell short of significance with children's anxiety ($r = .32$, $p = .06$); more frequent discussions were associated with more anxiety.

None of the remaining functioning variables listed in Table 15 were significantly correlated with frequency of communication variables.

Predictors of Functioning: Openness of Communication

Multiple regression analyses were performed to examine openness of communication variables as predictors of functioning.

Overall openness. First, all eight openness of communication variables (Table 10) were entered collectively into regression equations for

each functioning variable (Table 19). Openness of communication significantly accounted for 26% of the variance ($p < .05$) in family cohesion as rated by the child and 28% of the variance ($p < .05$) in family conflict as rated by the parent; parent-child pairs with greater overall openness in their communication experienced greater family cohesion and less family conflict. The eight openness variables collectively did not account for significant variance in any other functioning variable listed in Table 15.

Because the high intercorrelations and number of predictor variables, as well as possibility of suppressor variables, likely limited the power of these collective results, post-hoc regression analyses were next performed with smaller groupings of openness of communication variables. These smaller groupings were each entered into regression analyses for each functioning variable. The groupings of openness variables included content of openness (informational/emotional); rater (child/parent); and subject person about whom the rating was made (about child/about parent).

Content: Informational openness/emotional openness. The following analyses involved two groupings: (a) the four openness variables regarding informational openness (child's informational openness as rated by the child, child's informational openness as rated by the parent, parent's informational openness as rated by the child, parent's informational openness as rated by the parent) and (b) the four openness variables regarding emotional openness (child's emotional openness as rated by the child, child's emotional openness as rated by the parent, parent's emotional openness as rated by the child, parent's emotional openness as rated by the parent).

Content of openness predicted to several functioning variables.

Increased informational openness by parent-child pairs predicted significantly to increased family cohesion as rated by children (adjusted $R^2 = .29$), decreased family conflict as rated by parents (adjusted $R^2 = .29$), better quality of support given to children by parents (adjusted $R^2 = .27$), increased seeking of social support by children (adjusted $R^2 = .21$), and greater parental satisfaction with social support (adjusted $R^2 = .19$). Emotional openness predicted significantly to greater family cohesiveness (as rated by the child) (adjusted $R^2 = .17$). The informational openness/emotional openness variable groupings did not account for significant variance in any other functioning variable listed in Table 15.

Reporter: Child/parent. The following analyses involved two grouping of openness of communication variables: (a) the four openness variables rated by the child (child's informational openness, child's emotional openness, parent's informational openness, parent's emotional openness) and (b) the four openness variables rated by the parent (child's informational openness, child's emotional openness, parent's informational openness, parent's emotional openness).

Both children's ratings and parents' ratings of openness were significantly associated with family functioning as rated by the child (adjusted $R^2 = .18$, $p < .05$ for the child's ratings and family cohesion; adjusted $R^2 = .20$, $p < .05$ for the parent's ratings and family conflict). Parents' ratings of openness also predicted increased closeness of the parent-child relationship as rated by the child (adjusted $R^2 = .25$, $p < .05$). The child-reported/parent-

reported openness variable groupings did not account for significant variance in any other functioning variable listed in Table 15.

Subject person: About child/about parent. The following analyses involved two grouping of openness of communication variables: (a) the four openness variables about the child's openness (child's informational openness as rated by the child, child's emotional openness as rated by the child, child's informational openness as rated by the parent, child's emotional openness as rated by the parent) and (b) the four openness variables about the parent's openness (parent's informational openness as rated by the child, parent's emotional openness as rated by the child, parent's informational openness as rated by the parent, parent's emotional openness as rated by the parent).

Children's openness of communication significantly predicted (at $p < .05$) 20% of the variance in family cohesiveness as rated by the child; 22% of the variance in quality of parental support perceived by the child; and 18% of the variance in the extent to which the child sought support. Children who were more informationally or emotionally open in their communication about the cancer tended to experience greater family cohesion, to seek out support more, and to feel better supported by parents. For parents, their openness of communication also predicted to increased family cohesion as rated by the child as well as to decreased family conflict as rated by the parent, increased parent support satisfaction, and increased parent-child relationship closeness as rated by the child (adjusted $R^2 = .18$ to $.20$ for all, $p < .05$). The about child/about parent openness variable groupings did not account for significant variance in any other functioning variable listed in Table 15.

Predictors of Functioning: Frequency of Communication

Regression analyses were performed to predict functioning on the basis of frequency of communication.

Overall frequency. First, all six frequency of communication variables (Table 10) were entered collectively into regression equations for each functioning variable (Table 20). Frequency of communication significantly accounted for variance in only one variable -- social support the child perceived receiving from the mother, adjusted $R^2 = .26$, $p < .05$. The six frequency variables collectively did not account for significant variance in any other functioning variable listed in Table 15.

As with the analyses for openness of communication, further regression analyses were performed to more closely examine the predictive power of the following subgroupings of frequency of communication variables: content of openness (informational vs. emotional); rater (child vs. parent); and subject person (about child vs. about parent).

Content: Informational frequency/emotional frequency. The following analyses involved two groupings of frequency of communication variables: (a) the two informational frequency variables (parent-child informational frequency as rated by the child, parent-child informational frequency as rated by the parent) and (b) the four emotional frequency variables (child's emotional frequency as rated by the child, child's emotional frequency as rated by the parent, parent's emotional frequency as rated by the child, parent's emotional frequency as rated by the parent).

Frequency of informational communication predicted significantly to the parent's marital functioning (adjusted $R^2 = .18$, $p < .05$). Frequency of

emotional communication failed to predict to any functioning variables at the $p < .05$ level. The informational frequency/emotional frequency variable groupings did not account for significant variance in any other functioning variable listed in Table 15.

Reporter: Child/parent. The following analyses involved two groupings of frequency of communication variables: (a) the three frequency ratings by the child (parent-child informational frequency, child's emotional frequency, parent's emotional frequency) and (b) the three frequency ratings by the parent (parent-child informational frequency, child's emotional frequency, parent's emotional frequency).

The child's ratings of communication frequency significantly accounted for 44% of the variance ($p < .01$) in the parent's report of change in the parent-child relationship and 43% of the variance ($p < .01$) in the child's ratings of social support he/she received from the mother. The parent's ratings of communication frequency significantly predicted 33% of the variance in the parent's ratings of family expressiveness ($p < .05$). The child-reported/parent-reported frequency variable groupings did not account for significant variance in any other functioning variable listed in Table 15.

Subject person: About child/about parent. The following analyses involved two groupings of frequency of communication variables: (a) the two emotional frequency variables about the child (child's emotional frequency as rated by the child, child's emotional frequency as rated by the parent) and (b) the two emotional frequency variables about the parent (parent's emotional frequency as rated by the child, parent's emotional frequency as rated by the parent).

Ratings of the child's frequency of communication significantly predicted the child's locus of control (adjusted $R^2 = .38$, $p < .01$) and the parent's report of marital functioning (adjusted $R^2 = .27$, $p < .05$). Ratings of the parent's frequency of communication significantly predicted change in the parent-child relationship (adjusted $R^2 = .35$, $p < .01$). The about child/about parent frequency variable groupings did not account for significant variance in any other functioning variable listed in Table 15.

TABLE 2**Percentages of Responses About Communication Variables**

Item	Child report	Parent report
Child's informational openness		
Very closed	2.9	0.0
Mostly closed	8.8	11.4
Mostly open	44.1	17.1
Very open	44.1	71.4
Child's emotional openness		
Very closed	11.8	11.4
Mostly closed	20.6	5.7
Mostly open	29.4	34.3
Very open	38.2	48.6
Parent's informational openness		
Very closed	3.0	0.0
Mostly closed	3.0	2.9
Mostly open	30.3	11.4
Very open	63.6	85.7
Parent's emotional openness		
Very closed	3.0	2.9
Mostly closed	18.2	11.4
Mostly open	39.4	34.3
Very open	39.4	51.4
Informational frequency		
Never	2.9	0.0
Rarely	40.0	20.0
Often	22.9	17.1
Most of the time	34.3	62.9
Child's emotional frequency		
Never	14.3	14.3
Rarely	60.0	54.3
Often	14.3	22.9
Most of the time	11.4	8.6

TABLE 2 (continued)

Item	Child report	Parent report
Parent's emotional frequency		
Never	17.1	8.6
Rarely	74.3	40.0
Often	5.7	31.4
Most of the time	2.9	20.0
Willingness of child to engage in communication		
Not willing	8.6	11.4
Somewhat willing	37.1	25.7
Very willing	54.3	62.9
Willingness of parent to engage in communication		
Not willing	2.9	5.7
Somewhat willing	22.9	14.3
Very willing	74.3	80.0
Usual initiator of communication		
Parent	28.6	51.4
Child	34.3	14.3
Both parent and child equally	37.1	34.3
Child asks the parent questions about the cancer experience		
No	29.4	17.1
Yes	70.6	82.9
Parent's usual answer to child's questions about the cancer experience^a		
No answer	0.0	0.0
Minimal answer	0.0	0.0
Best/honest answer possible	100.0	100.0
Parent asks the child questions about the cancer experience		
No	2.9	5.7
Yes	97.1	94.3

TABLE 2 (continued)

Item	Child report	Parent report
Child's usual answer to parent's questions about the cancer experience^a		
No answer	0.0	0.0
Minimal answer	9.1	9.4
Best/honest answer possible	69.7	71.9
It depends	21.2	18.8
Verbalness of child's emotional communication		
Mostly nonverbal	31.4	37.1
Equally verbal and nonverbal	20.0	20.0
Mostly verbal	48.6	42.9
Verbalness of parent's emotional communication		
Mostly nonverbal	25.7	20.0
Equally verbal and nonverbal	17.1	22.9
Mostly verbal	57.1	57.1
Change in communication about the cancer experience		
Decreased	40.0	28.6
No change	40.0	45.7
Increased	20.0	25.7
Change in communication about things not related to the cancer experience		
Decreased	2.9	0.0
No change	74.3	48.6
Increased	22.9	51.4
Child's satisfaction with communication		
Not satisfied	0.0	2.9
Somewhat satisfied	23.5	20.0
Very Satisfied	76.5	77.1

TABLE 2 (continued)

Item	Child report	Parent report
Parent's satisfaction with communication		
Not satisfied	0.0	2.9
Somewhat satisfied	15.2	20.0
Very satisfied	81.8	77.1
Do not know	3.0	0.0
Child wishes to change something about the communication		
Yes	23.5	20.0
No	73.5	68.6
Do not know	2.9	11.4
Parent wishes to change something about the communication		
Yes	17.6	22.9
No	61.8	77.1
Do not know	20.6	0.0
Importance of communication to the parent-child relationship		
Not important	14.7	2.9
Somewhat important	29.4	22.9
Very important	55.9	74.3
Helpfulness of communication as a coping means		
Not helpful	2.9	2.9
Somewhat helpful	29.4	5.7
Very helpful	67.6	91.4

^a Percentages based on subsample of subjects who reported being asked questions.

TABLE 3

Correlations Between Openness of Communication Variables

Variable	1	2	3	4	5	6	7	8
<u>Child report</u>								
1. Child's openness about information	---	.75**	.66**	.63**	.09	.33	.07	.16
2. Child's openness about emotions		---	.40*	.67**	.33	.50**	.29	.36*
3. Parent's openness about information			---	.65**	-.10	.12	.07	.05
4. Parent's openness about emotions				---	.39*	.41*	.40*	.52**
<u>Parent report</u>								
5. Child's openness about information					---	.46**	.43**	.62**
6. Child's openness about emotions						---	.41*	.58**
7. Parent's openness about information							---	.58**
8. Parent's openness about emotions								---

* p < .05. ** p < .01.

TABLE 4**Correlations Between Frequency of Communication Variables**

<u>Variable</u>	1	2	3	4	5	6
<u>Child report</u>						
1. Informational frequency	—	.34*	.14	.45**	.00	-.02
2. Child's emotional frequency		—	.62**	-.06	.21	-.08
3. Parent's emotional frequency			—	-.07	.34	.07
<u>Parent report</u>						
4. Informational frequency				—	.05	.22
5. Child's emotional frequency					—	.37*
6. Parent's emotional frequency						—

* $p < .05$. ** $p < .01$.

TABLE 5

Correlations Between Openness of Communication and Frequency of Communication Variables

Variable	<u>Openness of communication</u>							
	<u>Child report</u>		<u>Parent report</u>					
	C-info	C-emo	P-info	P-emo	C-info	C-emo	P-info	P-emo
<u>Frequency of communication</u>								
<u>Child report:</u>								
Informational frequency	.21	.06	.29	-.03	.06	-.07	.09	.01
Child's emotional frequency	.45**	.56**	.27	.39*	.11	.19	.18	.14
Parent's emotional frequency	.24	.33**	.19	.46**	.30	.22	.40*	.23
<u>Parent report:</u>								
Informational frequency	.19	.03	.31	.05	-.05	.00	-.03	-.05
Child's emotional frequency	.31	.33	.35*	.40*	.24	.30	.04	.31
Parent's emotional frequency	.20	.17	.45**	.32	.04	.05	.20	.18

Note. C-INFO = child's informational openness; C-EMO = child's emotional openness; P-INFO = parent's informational openness; P-EMO = parent's emotional openness.

* $p < .05$. ** $p < .01$.

TABLE 6

Correlations Between Openness of Communication and Other Communication Variables

Variable	<u>Openness of communication</u>							
	<u>Child report</u>			<u>Parent report</u>				
	C-info	C-emo	P-info	P-emo	C-info	C-emo	P-info	P-emo
<u>Child report</u>								
Willingness of child	.50**	.61**	-.09	.27	.28	.40*	.17	.42*
Willingness of parent	.53**	.41*	.64**	.45**	.00	.06	.41*	.10
Satisfaction of child	.22	.17	-.13	.01	.13	.03	.09	.10
Satisfaction of parent	.14	.30	.02	.15	.29	.20	.07	.15
Importance to the relationship	.26	.31	.30	.30	.00	.10	.13	.14
Helpfulness as a coping means	.37*	.41*	.33	.32	.32	.30	.03	.15

TABLE 6 (continued)

<u>Variable</u>	<u>Openness of communication</u>					
	<u>Child report</u>			<u>Parent report</u>		
	C-info	C-emo	P-info P-emo	C-info	C-emo	P-info P-emo
<u>Parent report</u>						
Willingness of child	.10	.21	-.02 .29	.56**	.69**	.29 .51**
Willingness of parent	-.19	-.02	-.26 .00	.26	.15	.40* .46**
Satisfaction of child	.21	.42*	.12 .46**	.45**	.46**	.57** .44**
Satisfaction of parent	.13	.31	.12 .31	.28	.34*	.57** .37*
Importance to the relationship	.13	.03	.03 .09	.16	.23	.29 .17
Helpfulness as a coping means	.22	.17	.30 .19	-.12	.25	.25 .06

Note. C-INFO = child's informational openness; C-EMO = child's emotional openness;
P-INFO = parent's informational openness; P-EMO = parent's emotional openness.

* $p < .05$. ** $p < .01$.

TABLE 7

Correlations Between Frequency of Communication and Other Communication Variables

Variable	<u>Frequency of communication</u>					
	<u>Child report</u>		<u>Parent report</u>			
	Freq-Info	Freq-C-Emo	Freq-P-Emo	Freq-Info	Freq-C-Emo	Freq-P-Emo
<u>Child report</u>						
Willingness of child	-.01	.28	.22	-.21	.21	-.15
Willingness of parent	.30	.22	.33	.16	.11	.14
Satisfaction of child	-.13	.15	.18	-.15	-.08	-.06
Satisfaction of parent	-.26	.01	-.14	.05	.27	.04
Importance to the relationship	.36*	.46**	.40**	.21	.21	-.09
Helpfulness as a coping means	.24	.35*	.35*	.13	.40*	-.04

TABLE 7 (continued)

Variable	Frequency of communication					
	Child report		Parent report			
	Freq-Info	Freq-C-Emo	Freq-P-Emo	Freq-Info	Freq-C-Emo	Freq-P-Emo
<u>Parent report</u>						
Willingness of child	-.09	.04	.29	-.09	.38*	.17
Willingness of parent	.11	-.12	.22	-.07	.21	.33
Satisfaction of child	-.31	.14	.24	-.08	.16	.23
Satisfaction of parent	-.31	.07	.15	-.08	.16	.36*
Importance to the relationship	.23	.15	.33	.09	.25	.27
Helpfulness as a coping means	.45**	.07	.18	.38*	.17	.23

Note. FREQ-INF = frequency of communication about information; FREQ-C-EMO = frequency of child's communication about emotions; FREQ-P-EMO = frequency of parent's communication about emotions.
 * $p < .05$. ** $p < .01$.

TABLE 8

Correlations Between Other Communication Variables

Variable	Child report			Parent report		
	Will-C	Will-P	Sat-C Sat-P Imp Cope	Will-C	Will-P	Sat-C Sat-P Imp Cope
<u>Child report:</u>						
Will-C	---	.22	.40* .25 .33 .45**	.24	.09	.28 .10 .14 .07
Will-P	---	---	.36* .18 .40* .28	-.15	-.06	.27 .27 .13 .23
Sat-C	---	---	---	-.08	-.11	.40* .26 -.02 -.14
Sat-P	---	---	.09 .12 .23	.22	-.12	.60** .45** .00 -.15
Imp	---	---	---	.09	-.05	.06 -.10 .30 .41*
Cope	---	---	---	.32	-.18	.13 -.09 .20 .21

TABLE 8 (continued)

Variable	Parent report			
	Will-C	Will-P	Sat-C	Sat-P
Will-C	---	.50**	.38**	.30
Will-P	---	---	.07	.18
Sat-C	---	---	---	.88*
Sat-P	---	---	---	.16
Imp	---	---	---	-.01
Cope	---	---	---	.63**

Note. WILL-C = child's willingness to communicate; WILL-P = parent's willingness to communicate; SAT-C = Child's satisfaction with the communication; SAT-P = parent's satisfaction with the communication; IMP = importance of communication to the parent-child relationship; COPE = importance of communication as coping means.

* $p < .05$. ** $p < .01$.

TABLE 9

Factor Analyses of Openness of Communication Variables(1) Child and parent ratings

<u>Two-factor model</u>	<u>Pct. of var.</u>	<u>Cum. pct.</u>
Factor 1	43.9	
Factor 2	20.1	64.1

Pattern matrix correlations:

	Factor 1	Factor 2
Emo-P by P	.85	-.01
Inf-C by P	.79	.05
Inf-P by P	.71	.08
Emo-C by P	.66	-.18
Inf-C by C	-.08	-.93
Inf-P by C	-.17	-.77
Emo-P by C	.36	-.70
Emo-C by C	.29	-.66

<u>Three-factor Model</u>	<u>Pct. of var.</u>	<u>Cum. pct.</u>
Factor 1	44.8	
Factor 2	21.4	
Factor 3	6.4	72.7

Pattern matrix correlations:

	Factor 1	Factor 2	Factor 3
Inf-P by P	.84	-.15	.24
Emo-P by P	.82	-.02	-.06
Inf-C by P	.69	.20	-.21
Emo-C by P	.54	.13	-.42
Inf-P by C	-.05	-.87	-.12
Emo-P by C	.43	-.57	-.28
Inf-C by C	-.17	-.36	-.78
Emo-C by C	.16	-.12	-.74

TABLE 9 (continued)(2) Parent, nurse, and interviewer ratings

<u>Two-factor model</u>	<u>Pct. of var.</u>	<u>Cum. pct.</u>
Factor 1	35.5	
Factor 2	26.8	62.3
<u>Pattern matrix correlations:</u>		
	<u>Factor 1</u>	<u>Factor 2</u>
Emo-P by I	.82	-.04
Inf-C by I	.76	.13
Emo-P by P	.74	-.03
Inf-C by P	.73	-.09
Emo-C by I	.72	.01
Inf-P by I	.67	-.04
Inf-P by P	.65	-.01
Emo-C by P	.63	.09
Emo-C by N	-.05	.96
Inf-C by N	-.03	.93
Inf-P by N	.13	.91
Emo-P by N	-.03	.84

TABLE 9 (continued)

(3) Child, parent, nurse, and interviewer ratings

<u>Four-factor model</u>	<u>Pct. of var.</u>	<u>Cum. pct.</u>			
Factor 1	32.6				
Factor 2	21.5				
Factor 3	10.7				
Factor 4	6.3			71.1	
<u>Pattern matrix correlations:</u>					
	Factor 1	Factor 2	Factor 3	Factor 4	
Emo-P by P	.89	.12	.06	.13	
Inf-P by P	.86	-.06	.17	.19	
Inf-C by P	.73	.10	-.08	-.20	
Inf-P by I	.65	-.28	-.26	-.03	
Emo-P by I	.60	-.09	-.09	-.32	
Emo-C by P	.58	.11	-.15	-.21	
Emo-C by N	.05	.98	.03	.10	
Inf-C by N	.04	.92	-.01	.07	
Inf-P by N	.01	.88	-.08	-.17	
Emo-P by N	-.04	.80	-.02	-.03	
Emo-P by C	.58	.02	.67	-.31	
Inf-P by C	-.01	-.06	.61	-.20	
Inf-C by C	.39	.08	-.59	-.48	
Inf-C by C	-.24	.11	.21	-.94	
Emo-C by C	.17	.01	.20	-.62	
Emo-C by I	.38	-.05	-.23	-.48	

Note. PCT. OF VAR. = percent of variance accounted for; CUM. PCT. = cumulative percentage of variance accounted for; INF = informational openness; EMO = emotional openness; -C = about child; -P = about parent; BY C = rated by child; BY P = rated by parent; BY N = rated by nurse; BY I = rated by interviewer.

TABLE 10**Means and Standard Deviations for Communication Variables**

Item	Child report	Parent report
<u>Openness^a</u>		
Child's communication about information	3.29 (.76)	3.60 (.69)
Child's communication about emotions	2.94 (1.04)	3.20 (.99)
Parent's communication about information	3.55 (.71)	3.83 (.45)
Parent's communication about emotions	3.15 (.83)	3.34 (.80)
<u>Frequency^a</u>		
Communication about information	2.89 (.93)	3.43 (.81)
Child's communication about emotions	2.23 (.84)	2.26 (.82)
Parent's communication about emotions	1.94 (.59)	2.63 (.91)
<u>Other variables</u>		
Willingness of child to engage in discussion ^b	2.46 (.66)	2.51 (.70)
Willingness of parent to engage in discussion ^b	2.71 (.52)	2.74 (.56)
Satisfaction of child with communication ^b	2.76 (.43)	2.74 (.51)
Satisfaction of parent with communication ^b	2.88 (.42)	2.74 (.51)
Importance of communication to the parent-child relationship ^b	2.41 (.74)	2.71 (.52)
Helpfulness of communication as a coping means ^b	2.65 (.54)	2.77 (.43)

TABLE 10 (continued)

Item	Child report	Parent report
Nonparticipating parent's and child's communication about information ^a	2.93 (1.17)	3.18 (.90)
Nonparticipating parent's and child's communication about emotions ^a	2.59 (1.08)	2.71 (.94)

Note. Higher scores indicate more of the measured item. Ratings for openness were 1=very closed, 2=mostly closed, 3=mostly open, and 4=very open. Ratings for frequency were 1=never, 2=rarely, 3=often, 4=most of the time.

^aRated on a 1-4 scale.

^bRated on a 1-3 scale.

TABLE 11

Percentages of Children and Parents Who Gave Themselves and the Other Person the Same Communication Ratings

Item	Child report	Parent report
Informational openness		
Very closed	3.0	0.0
Mostly closed	0.0	2.9
Mostly open	24.2	2.9
Very open	42.4	65.7
TOTAL	69.6	71.5
Emotional openness		
Very closed	3.0	2.9
Mostly closed	9.1	0.0
Mostly open	18.2	20.0
Very open	30.3	37.1
TOTAL	60.6	60.0
Frequency of communicating emotions		
Never	5.7	2.9
Rarely	48.6	28.6
Often	0.0	14.3
Most of the time	2.9	5.7
TOTAL	57.2	51.5
Asks questions about the cancer experience		
No	0.3	2.9
Yes	23.3	80.0
TOTAL	23.6	82.9
Usual answer to questions about the cancer experience		
No answer	0.0	0.0
Minimal answer	0.0	0.0
Best/honest answer possible	16.2	55.9
TOTAL	16.2	55.9

TABLE 11 (continued)

Willingness to engage in communication		
Not willing	2.9	5.7
Somewhat willing	11.4	8.6
Very willing	42.9	57.1
TOTAL	57.2	71.4
Verbalness of communication of emotions		
Mostly nonverbal	2.8	17.1
Equally verbal and nonverbal	1.2	5.7
Mostly verbal	9.7	31.4
TOTAL	13.7	54.2
Satisfaction with communication		
Not satisfied	0.0	2.9
Somewhat satisfied	12.1	17.1
Very Satisfied	75.8	74.3
TOTAL	87.9	94.3
Wishes to change something about the communication		
Yes	1.4	8.6
No	15.4	57.1
Do Not Know	0.2	8.6
TOTAL	17.0	74.3

TABLE 12**Percentages of Parent-Child Pairs in Which Child and Parent Gave the Same Response to Communication Items**

Item	
Child's informational openness	
Very closed	0.0
Mostly closed	0.0
Mostly open	11.8
Very open	35.3
TOTAL	47.1
Child's emotional openness	
Very closed	2.9
Mostly closed	0.0
Mostly open	8.8
Very open	26.5
TOTAL	38.2
Parent's informational openness	
Very closed	0.0
Mostly closed	0.0
Mostly open	9.1
Very open	60.6
TOTAL	69.7
Parent's emotional openness	
Very closed	0.0
Mostly closed	6.1
Mostly open	15.2
Very open	30.3
TOTAL	51.6
Frequency of child's communication of emotions	
Never	5.7
Rarely	42.9
Often	2.9
Most of the time	2.9
TOTAL	54.4

TABLE 12 (continued)

Frequency of parent's communication of emotions	
Never	5.7
Rarely	34.3
Often	5.7
Most of the time	0.0
TOTAL	45.7
Child asks questions about the cancer experience	
No	8.8
Yes	64.7
TOTAL	73.5
Parent's usual answer to questions about the cancer experience	
No answer	0.0
Minimal answer	0.0
Best/honest answer possible	64.7
N/A	5.9
TOTAL	64.7
Parent asks questions about the cancer experience	
No	0.0
Yes	91.4
TOTAL	91.4
Child's usual answer to questions about the cancer experience	
No answer	0.0
Minimal answer	3.0
Best/honest answer possible	51.5
It depends	12.1
N/A	0.0
TOTAL	66.6
Child's willingness to engage in communication	
Not willing	2.9
Somewhat willing	14.3
Very willing	40.0
TOTAL	56.2

TABLE 12 (continued)

Parent's willingness to engage in communication	
Not willing	0.0
Somewhat willing	0.0
Very willing	57.1
TOTAL	57.1
Child's verbalness of communication of emotions	
Mostly nonverbal	14.3
Equally verbal and nonverbal	2.9
Mostly verbal	25.7
TOTAL	42.9
Parent's verbalness of communication of emotions	
Mostly nonverbal	8.6
Equally verbal and nonverbal	5.7
Mostly verbal	37.1
TOTAL	51.4
Child's satisfaction with communication	
Not satisfied	0.0
Somewhat satisfied	8.8
Very Satisfied	64.7
TOTAL	73.5
Parent's satisfaction with communication	
Not satisfied	0.0
Somewhat satisfied	6.1
Very Satisfied	64.7
TOTAL	70.8
Child wishes to change something about the communication	
Yes	11.8
No	52.9
Do Not Know	0.0
TOTAL	64.7

TABLE 12 (continued)**Parent wishes to change something about the communication**

Yes	2.9
No	47.1
Do Not Know	0.0
TOTAL	50.0

TABLE 13**Means and Standard Deviations for Openness of Communication Variables Across Raters**

<u>Item</u>	<u>M</u>	<u>SD</u>
Child's informational openness		
Child	3.29	.76
Parent	3.60	.69
Nurse	3.25	.75
Interviewer	3.26	.85
Child's emotional openness		
Child	2.94	1.04
Parent	3.20	.99
Nurse	3.21	.79
Interviewer	2.69	1.16
Parent's informational openness		
Child	3.55	.71
Parent	3.83	.45
Nurse	3.50	.58
Interviewer	3.69	.58
Parent's emotional openness		
Child	3.15	.83
Parent	3.34	.80
Nurse	3.36	.73
Interviewer	3.03	1.07

Note. Ratings for openness were made on a 4-point scale (1=very closed, 2=mostly closed, 3=mostly open, and 4=very open).

TABLE 14

Significant Regressions of Demographic/Social/Medical Variables on Openness and Frequency of Communication Variables

<u>Variable</u>	<u>Communication Variable</u>	<u>Adjusted R²</u>	<u>Beta</u>	<u>Simple Correlation</u>
<u>Social variables set</u>				
Number of children	Child's emotional frequency (C)	.28*	-.18	-.26
Birth order			-.22	-.51**
Parent's marital status			.07	.10
Parent's education			.39	.14
SES			-.28	-.12
Psychological treatment for child			.10	-.14
Psychological treatment for parent			-.25	-.08
<u>Medical variables set</u>				
Disease severity	Informational frequency (P)	.17*	-.29	-.15
Medical risk			.40	.02
Time since diagnosis			-.33	-.39*
Relapse status			-.32	-.24

Note. (C) = rated by child. (P) = rated by parent.
 * $p < .05$. ** $p < .01$.

TABLE 15

Means and Standard Deviations for Variables Assessing Functioning

Variable	<u>M</u>	<u>SD</u>
<u>Child functioning</u>		
Anxiety ^a	10.49	5.79
Self-worth ^b	16.86	2.56
Social acceptance ^b	16.09	3.79
Locus of control ^c	12.94	4.56
Internalizing behaviors ^d	52.59	11.48
Externalizing behaviors ^d	47.79	11.67
Anxiety/depression ^d	54.97	7.71
Nurse rating	3.23	.77
<u>Parent functioning</u>		
General psychopathology ^e	.64	.70
Marital adjustment ^f	112.52	28.16
Nurse rating	3.29	.60
<u>Family functioning</u>		
<u>Child report:</u>		
Cohesion ^g	6.79	1.90
Conflict ^g	3.09	2.43
Expressiveness ^g	4.66	1.75
Closeness of parent-child relationship ^h	2.67	.60
<u>Parent report:</u>		
Cohesion ^g	7.24	1.78
Conflict ^g	2.29	2.04
Expressiveness ^g	6.03	1.98
Closeness of parent-child relationship ^h	2.74	.51
<u>Social support</u>		
<u>For child:</u>		
From mother ⁱ	4.83	.45
From father ⁱ	4.27	.98

TABLE 15 (continued)

Variable	<u>M</u>	<u>SD</u>
From family ⁱ	3.85	.81
From formal sources ⁱ	3.23	1.49
From friends ⁱ	3.44	1.13
From medical staff ⁱ	3.67	1.60
Satisfaction with ⁱ	6.31	.96
Seeking of ⁱ	4.74	1.92
Quality of from parent:		
Child report ^h	2.88	.33
Parent report ^h	2.89	.40
<u>For parent:</u>		
Number of supports ^j	4.05	1.83
Satisfaction with ^j	5.52	.50

Note. Higher scores indicate more of the measured item. See "Measures" section for scaling description of each variable.

^a Children's Manifest Anxiety Scale - Revised

^b Self-Perception Profile for Children; Self-Perception Profile for Adolescents

^c Nowicki-Strickland Internal-External Locus of Control Scale for Children

^d Child Behavior Checklist

^e Brief Symptom Inventory

^f Locke-Wallace Marital Adjustment Scale

^g Family Environment Scale

^h Interview

ⁱ Social Support Rating Scale - Revised

^j Social Support Questionnaire - 6-Item Form

TABLE 16

Significant Correlations Between Openness of Communication (as Reported by Child and Parent) and Functioning

<u>Variable</u>	<u>Child report</u>		<u>Parent report</u>	
	C-info	C-emo P-info P-emo	C-info	C-emo P-info P-emo
<u>Child functioning</u>				
Locus of control			-.34*	
<u>Parent functioning</u>				
General psychopathology				-.36*
<u>Family functioning</u>				
<u>Child report:</u>				
Cohesion	.44**	.36*	.49**	
Expressiveness	.43*	.38*	.43*	
Closeness of parent-child relationship		.42*		.41*
<u>Parent report:</u>				
Conflict				-.41*

TABLE 16 (continued)

Variable	<u>Child report</u>		<u>Parent report</u>	
	C-info	P-info	C-info	P-info
<u>Social support</u>				
<u>For child:</u>				
From medical staff			.37*	.44**
Satisfaction with				.39*
Seeking of				.44**
Quality from parent:				
Child report	.51**	.51**		
<u>For parent:</u>				
Number of supports			-.36*	
Satisfaction with				.37*

Note. C-INFO = child's informational openness; C-EMO = child's emotional openness; P-INFO = parent's informational openness; P-EMO = parent's emotional openness.
 * $p < .05$. ** $p < .01$.

TABLE 17

Significant Correlations Between Openness of Communication (as Reported by Nurse and Interviewer) and Functioning

<u>Variable</u>	<u>Nurse report</u>		<u>Interviewer report</u>	
	C-info	P-emo	C-info	P-emo
<u>Child functioning</u>				
Nurse rating	.66**	.65**	.64**	.52**
<u>Parent functioning</u>				
Nurse rating	.49**	.58**	.58**	.58**
<u>Family functioning</u>				
<u>Child report:</u>				
Cohesion			.38*	
<u>Social support</u>				
<u>For child:</u>				
From formal sources				.38*
From medical staff	.38*		.35*	
Seeking of			.42*	.42*

TABLE 17 (continued)

Variable	<u>Nurse report</u>		<u>Interviewer report</u>	
	C-info	C-emo P-info P-emo	C-info	C-emo P-info P-emo
Quality from parent:				
Child report		.51**		.58**
<u>For parent:</u>				
Satisfaction with				.40*

Note. C-INFO = child's informational openness; C-EMO = child's emotional openness; P-INFO = parent's informational openness; P-EMO = parent's emotional openness.
 * $p < .05$. ** $p < .01$.

TABLE 18

Significant Correlations Between Frequency of Communication and Functioning

<u>Variable</u>	<u>Child report</u>		<u>Parent report</u>	
	<u>Freq-Info</u>	<u>Freq-C-Emo</u>	<u>Freq-Info</u>	<u>Freq-P-Emo</u>
<u>Parent functioning</u>				
Marital adjustment	-.50*	-.42*		
Nurse rating				-.48*
<u>Family functioning</u>				
<u>Parent Report</u>				
Conflict			-.41*	
<u>Social support</u>				
<u>For child</u>				
From mother		-.40*		
From father				.43*
From friends				.38*
Seeking of				.43*
				.34*

TABLE 18 (continued)

Variable	Child report		Parent report	
	<u>Freq-Info</u>	<u>Freq-C-Emo</u>	<u>Freq-Info</u>	<u>Freq-C-Emo</u>
Quality from parent:				
Child report	.51**	.51**		

Note. FREQ-INF = frequency of communication about information; FREQ-C-EMO = frequency of child's communication about emotions; FREQ-P-EMO = frequency of parent's communication about emotions.
 * $p < .05$. ** $p < .01$.

TABLE 19

Significant Regressions of Openness of Communication Variables on Functioning Variables

<u>Communication Domain</u> Functioning Variable	<u>Adjusted R²</u>	<u>F</u>	<u>p</u>
<u>Overall openness^a</u>			
Family conflict (P)	.28	F(8,23) = 2.51	*
Family cohesion (C)	.26	F(8,24) = 2.38	*
<u>Informational openness</u> <u>vs. emotional openness^b</u>			
<u>Informational</u>			
Family cohesion (C)	.29	F(4,28) = 4.22	**
Family conflict (P)	.29	F(4,27) = 4.19	**
Quality of parental support (C)	.27	F(4,28) = 3.92	**
Seeking support (C)	.21	F(4,28) = 3.12	*
Satisfaction with support (P)	.19	F(4,27) = 2.82	*
<u>Emotional</u>			
Family cohesion (C)	.17	F(4,28) = 2.68	*
<u>Child report vs. parent report^c</u>			
<u>Child report</u>			
Family cohesion (C)	.18	F(4,28) = 2.71	*
<u>Parent report</u>			
Closeness of relationship (C)	.25	F(4,28) = 3.67	*
Family conflict (C)	.20	F(4,29) = 3.09	*
<u>Child's openness vs. parent's openness^d</u>			
<u>Child's openness</u>			
Family cohesion(C)	.20	F(4,29) = 3.09	*
Quality of parental support (C)	.22	F(4,29) = 3.32	*
Seeking support (C)	.18	F(4,29) = 2.78	*

TABLE 19 (continued)

<u>Communication Domain</u> Functioning Variable	<u>R</u> ²	<u>F</u>	<u>p</u>
<u>Parent's openness</u>			
Family conflict (P)	.20	<u>F</u> (4,27) = 2.99	*
Satisfaction with support (P)	.20	<u>F</u> (4,27) = 2.94	*
Closeness of relationship (C)	.19	<u>F</u> (4,28) = 2.93	*
Family cohesion (C)	.18	<u>F</u> (4,28) = 2.71	*

Note. (C) = rated by child. (P) = rated by parent.

^a All eight openness of communication variables.

^b Informational openness variables = child's informational openness as rated by the child, child's informational openness as rated by the parent, parent's informational openness as rated by the child, parent's informational openness as rated by the parent). Emotional openness variables = (child's emotional openness as rated by the child, child's emotional openness as rated by the parent, parent's emotional openness as rated by the child, parent's emotional openness as rated by the parent).

^c Child report variables = child's informational openness, child's emotional openness, parent's informational openness, parent's emotional openness. Parent report variables = child's informational openness, child's emotional openness, parent's informational openness, parent's emotional openness.

^d About child variables = child's informational openness as rated by the child, child's emotional openness as rated by the child, child's informational openness as rated by the parent, child's emotional openness as rated by the parent. About parent variables = parent's informational openness as rated by the child, parent's emotional openness as rated by the child, parent's informational openness as rated by the parent, parent's emotional openness as rated by the parent.

* $p < .05$. ** $p < .01$.

TABLE 20

Significant Regressions of Frequency of Communication Variables on Functioning Variables

<u>Communication Variable</u> Functioning Variable	<u>Adjusted R²</u>	<u>F</u>	<u>p</u>
<u>Overall frequency^a</u>			
Support from mother (C)	.26	F(6,28) = 2.96	*
<u>Informational frequency vs. emotional frequency^b</u>			
<u>Informational</u>			
Marital adjustment (P)	.18	F(2,24) = 3.90	*
<u>Emotional</u> (None)			
<u>Child report vs. parent report^c</u>			
<u>Child report</u>			
Change in relationship (P)	.44	F(3,16) = 6.05	**
Support from mother (C)	.43	F(3,16) = 5.75	**
<u>Parent report</u>			
Family expressiveness (P)	.33	F(3,16) = 4.22	*
<u>Child's frequency vs. parent's frequency^d</u>			
<u>Child's frequency</u>			
Locus of control (C)	.38	F(2,17) = 6.85	**
Marital adjustment (P)	.27	F(2,17) = 4.43	*
<u>Parent's frequency</u>			
Change in relationship (P)	.35	F(2,17) = 6.04	**

Note. (C) = rated by child. (P) = rated by parent.

^a All six frequency of communication variables

^b Informational frequency variables = parent-child informational frequency as rated by the child, parent-child informational frequency as rated by the parent. Emotional frequency variables = child's emotional frequency as rated by the child, child's emotional frequency as rated by the parent, parent's

TABLE 20 (continued)

emotional frequency as rated by the child, parent's emotional frequency as rated by the parent.

^c Child report variables = parent-child informational frequency, child's emotional frequency, parent's emotional frequency. Parent report variables = parent-child informational frequency, child's emotional frequency, parent's emotional frequency.

^d About the child variables = child's emotional frequency as rated by the child, child's emotional frequency as rated by the parent. About the parent variables = parent's emotional frequency as rated by the child, parent's emotional frequency as rated by the parent.

* $p < .05$. ** $p < .01$.

Discussion

This study examined the communication about the cancer experience that children with cancer have with their parents; demographic, social, and medical factors relating to the communication; and the communication's relationship to psychosocial functioning. Analyses and discussion of these findings are somewhat complex given the double assessment methodology employed: individuals of dyads reporting on themselves as well as the other dyad partner. Furthermore, the same communication variables served as the foci in several analyses, depending upon the issue examined (e.g., content: informational or emotional; subject person: about the child or about the parent; and rater: the child or parent). Because of these complexities, the following discussion will attempt to provide appropriate reflection on the results from several vantage points.

The Communication

The first aim of the study was to gain insight into the specifics of communication about the cancer experience that children with cancer have with their parents. Results of descriptive analyses clearly supported the anticipated finding of variation in communication across individuals. The range of responses for most of the communication aspects assessed suggests that children and parents do not communicate in a totally uniform pattern but exhibit individuality and a range of communication styles. Such range is consistent with previous literature describing variation in aspects of parent-child communication (Binger et al., 1969; Chesler et al., 1986; Fritz et al., 1988; Vernick & Karon, 1965). At the same time, however, it was explored whether patterns in communication existed by which to allow generalizations about

how "most" children or parents might be expected to communicate. Indeed, the descriptive data suggested several such patterns.

The descriptive findings provide the first empirically-based comprehensive picture of communication between children with cancer and their parents.

Differences in Openness and Frequency of Communication

Findings that both children and parents perceive themselves as well as each other to be more open than limited in their informational communication and in their emotional communication are not surprising. As previously detailed, the "open approach" has been commonly promoted and clinical recommendations by medical and psychosocial staff have abounded in the last 20 years for parents and children to be open (informationally and emotionally) in their communication with each other and with other people in their lives. This study's findings certainly appear to affirm the success of these efforts. Prior findings of openness have been based upon informational indices (Chesler et al., 1986; Claflin & Barbarin, 1991; Slavin et al., 1982) but not emotional ones. This study's results provide evidence that parents and children are open not just about informational issues but about emotional ones as well.

It was interesting that, although openness ratings were consistently high, frequency ratings were variable. For example, emotional openness was high but emotional frequency was extremely low as reported by children and quite varied as reported by parents. Such results lend support to viewing openness and frequency as separate aspects of communication that can differ; in this case, children reported themselves as communicating their emotions

openly but infrequently. Also noteworthy was the difference in frequency depending on the content of the communication; informational communication occurred more frequently than not, but emotional communication occurred more infrequently than frequently (for children's ratings of their parents).

The findings argue for distinction by aspect of communication (e.g., openness, frequency) and content (e.g., informational, emotional) and argue against the methodology employed by several studies to date of either basing general conclusions about the parent-child communication on singular aspects of communication (Koocher & O'Malley, 1981; Slavin et al., 1982; Susman et al., 1982) or of generalizing across several aspects to make conclusions (Cohen et al., 1989; Spinetta et al., 1981).

Differences Between Informational Communication and Emotional Communication

Individuals were revealed to be more open and more frequent in their informational communication than in their emotional communication. However, it appears that the constructs of informational and emotional openness are still significantly associated with each other (for child and parent report), as are informational and emotional frequency (for child report); informational communication is related to how open and often children communicate emotions and vice versa. In addition, emotional openness (of child or parent) appeared significantly associated with emotional frequency (of child or parent) according to child report but not according to parent report.

That communication about information occurs more frequently and openly than does communication about emotions is not surprising. First, clinical efforts to promote communication have primarily concentrated on ensuring that information be correctly transmitted and understood. Also, it is likely easier to discuss and share concrete information of an impersonal nature (e.g., about treatments, diagnosis specifics, schedules) than to communicate about abstract feelings that are quite personal. Furthermore, the daily demands of the treatment regimen in terms of appointments, tests, medications, and the like probably elicit the need to discuss informational aspects of the cancer experience than emotional ones.

These findings provide empirical evidence that informational communication and emotional communication operate as separate but related constructs of communication. As previously detailed, research prior to this study has exclusively focused on communication of factual information (Bull & Drotar, 1991; Clafin and Barbarin, 1991; Worchel et al., 1987) with only suggestions and inference made about communication about emotional issues (Koocher & O'Malley, 1981; Slavin et al., 1982; Susman et al., 1982); there has been no prior assessment of emotional communication. The results of this study document that children and parents do distinguish between informational and emotional communication and that communicating about diagnosis, prognosis, and treatment issues is, as has been previously suggested (Koocher & O'Malley, 1981; Slavin et al., 1982; Vernick & Karon, 1965), very different than communicating about feelings, concerns, and hopes.

Differences Between Children's Communication and Parents' Communication

Strong intercorrelations within each reporter existed between children's and parents' informational openness, between their emotional openness, and between their emotional frequency. Clearly, one individual's sharing of information appears associated with the other individual communicating information; the same is true for the sharing of emotions. But only by child report was there a relationship between informational and emotional frequency (the child's); parent report indicated no such relationship.

Comparison of children's to parents' communication styles revealed more similarities than expected. That children and parents showed no differences in informational or emotional openness, willingness to communicate, satisfaction with communication, or verbalness in communicating emotions suggests that children and parents are actually quite "connected" or matched in their communication styles; perhaps children and parents reciprocally gauge their styles to be congruent with the other person's. These similarities between children's and parents' styles held true whether according to child or to parent report.

However, the differences in frequency of emotional communication (parents rated themselves as discussing emotions more often while children rated themselves as discussing emotions more often) suggest an effect of rater (child vs. parent) as well as of aspect of communication (differences for emotional frequency but not for emotional openness).

These findings are somewhat surprising as they are not consistent with suggestions by earlier researchers (Karon & Vernick, 1965; Waechter, 1971) that children's and parents' communication may differ. These suggestions of differences, however, were speculative whereas this study empirically compares children's and parents' communication about the cancer experience. The prior suggestions of differences were made in the 1960's and 1970's when "closed" communication was still espoused and children's communication or desire for such often went unmatched by the parents; it is likely that with almost two decades of clinical recommendations for "open communication," children and parents are currently more observant and responsive to each other's needs as well as more free to express themselves, and hence their styles are more congruent than previously.

Nonparticipating parent. An effect for rater was evident when examining parent-child communication for the parent participating in the study compared to parent not participating in the study. Parents perceived themselves as significantly more open than the nonparticipating parent in their parent-child communication, yet children did not perceive this difference between parents. It may be that participating parents responded in a socially desirable manner in order to make themselves appear "better" than the other parent, and that no differences exist between the participating and nonparticipating parent. Alternatively, it may be that participating parents, by virtue of being the primary parents for their children's care, are more open than nonparticipating parents, but that children do not notice the differences.

The associations between participating parents' and nonparticipating parents' parent-child communication were minimal. These findings suggest

that parents do not communicate similarly or in balance with one another. For example, one may have theorized that if one parent is open in communication, the other parent may be as well, or that one parent's openness may "make up for" the other parent's lack of openness. But no pattern of association appears evident, at least regarding openness. No studies to date have examined this issues of congruence between parents regarding cancer communication or other aspects of the cancer experience with their child.

Differences Between Reporters of Communication

Child report vs. parent report. Evidence for rating consistency between children and parents was mixed. The findings of similarities between children's and parents' reporting follow suit with previous pediatric oncology studies that have documented agreements in parent-child reporting (Mulhern et al., 1981; Nannis et al., 1982; Phipps et al., 1995; Slavin et al., 1982) on topics such as sense of control, the child's coping style, prognosis, and when the child learned the diagnosis. However, the findings of reporting differences are supported by studies on interpersonal and communication topics outside the pediatric oncology literature (Peterson et al., 1993; Sigelman et al., 1995). The differences are also consistent with research in the general child clinical psychology literature commonly reporting reliability between children and parents to be low (Achenbach, McConaughy, & Howell, 1987; Klein, 1991), especially when reports are about family interactions and experiences (Ritchie & Fitzpatrick, 1990; Sigelman et al., 1995). The significant correlations between reporters for child's emotional openness and parent's emotional openness but the lack of correlations for child's or parent's

informational openness suggest stronger connections between raters for emotional communication than informational communication. No prior studies have examined parent-child rating congruence regarding communication in pediatric oncology families.

Nurse and interviewer reports. That nurses appeared to rate openness similarly to children and to parents, and that interviewers rated similarly to children (and to parents for parents' openness) suggests considerable congruence in perceptions. That interviewers rated children's openness significantly differently than did parents suggests several explanations. Perhaps interviewers had expectations for how open communication could be and hence perceived children to fall short of this. Alternatively, descriptive comments provided by the children and parents embellished the interviewer's view of the communication in a way that did not match the ratings endorsed by the parents. This is especially likely given that the interviewer had to reflect interview information from both the child and parent in a single rating, and that children reported lower ratings than parents reported.

All reporters. When each of the openness of communication variables was considered separately (in MANOVA's), the lack of significant differences across raters as a group suggested fair consistency across raters (despite the above differences found for some specific rater combination comparisons). However, when all openness of communication variables were considered simultaneously across all raters (in the factor analysis), the evident groupings underscored the effect of rater as well as subject person (child or parent) and content (informational and emotional). The parent and interviewer ratings

factoring together suggested significant relationships between the two and the possibility that interviewer ratings may be most driven by parent report of communication than by child report.

Relationships Between Aspects of Communication (Child and Parent Report)

Openness and frequency of communication showed several significant relationships with other communication variables. Some relationships seem intuitive, such as the association of openness of communication (for both child and parent report) with children's and parents' willingness to communicate; those individuals who communicated fully also were more willing to communicate. More interestingly, for children greater openness and frequency of emotional communication related to higher ratings of communication's helpfulness as a coping means; conversely, ratings of communication as less of a helpful coping means related to less openness and less emotional frequency by the child.

Frequency of communication was strongly related (for both child and parent report) to the importance of communication in the parent-child relationship and to communication's helpfulness as a personal coping means; people who communicated more also perceived communication as more important and helpful. But for child report these associations were only true for emotional communication, not informational.

Helpfulness of communication as a coping means (for both child and parent report) was associated with how often communication occurred; for child ratings the relationship was with frequency of emotional communication while for parent ratings the relationship was with informational communication.

Factors Relating to Openness and Frequency

The hypothesis that demographic/social/medical variables would relate to communication was supported by fewer variables than expected, and the strength of the findings depended on the aspect of communication examined. Overall, the findings are partially consistent with prior research findings which found child's age, family structure, and chronicity of the cancer to relate significantly to communication; in this study, birth order, parents' marital status, time since diagnosis, medical risk, and number of relapses related significantly to communication.

Social and medical variables accounted for more significant variance in frequency of communication than in openness of communication. Social variables as a set accounted for almost one-third of the variance in children's self-reported emotional frequency, suggesting that children's social environment does have a significant relationship with how often children communicate their emotions. Medical variables as a set accounted for significant variance in parent-child informational frequency, suggesting that medical factors have a relationship with informational communication. The regression and correlational results overall suggest that social variables may be more related to emotional communication whereas medical variables may be more related to informational communication.

That birth order (one of the variables in the social variables set) accounted individually for significant variance in emotional communication (both children's and parents' emotional openness and children's emotional frequency) is consistent with other research findings that the older child tends to be told more information and detail by the parent than the younger child

(Chesler et al., 1986; Claflin & Barbarin, 1991; Slavin et al., 1982). This study's findings suggests that the older or only child is also privy to more emotional disclosure and discussion. One interpretation for this is that the more senior the child in the family hierarchy, the more responsibility the child is given and/or takes and the greater likelihood for involvement in communication with the parent. Similarly, when a parent is single, the child is also more likely to be involved in emotional communication with the parent. It may be, then, that children and parents who are without close partnerships (without siblings or being oldest for the child or without a parent/spouse for the parent) communicate on an emotional level with each other more than children and parents who do have close partnerships.

Despite the significant findings, the number of nonsignificant findings is still striking, especially given the number of demographic, social, and medical variables that were examined both in sets and individually. For example, age of the child fell short of statistical significance in accounting for variance in informational openness and informational frequency, yet age had been shown several times to relate to informational communication (Chesler et al., 1986; Claflin & Barbarin, 1991; Slavin et al., 1982; Spinetta, 1974). Perhaps the small sample size, assessment method, and unequal distribution of children's ages in this study impacted the age variable's effect. Yet, why birth order of the child and not age, however, accounted for significant variance is difficult to explain. It may be that birth order relates to emotional communication but less so to informational communication, while age of the child relates to informational communication.

In addition, this study's largely adolescent sample may have contributed to results different from other studies whose samples have been comprised more of younger children. Perhaps the range of overall communication between adolescents and parents is less than for younger children and their parents, and thereby greater difficulty exists in detecting an age effect for parent-child communication.

Relationship of Communication to Functioning

Openness of Communication

Surprisingly, no openness variables (collectively or in subgroupings) accounted for significant variance in variables reflecting individual functioning. The primary hypotheses that children who experienced more open communication would experience less depression and anxiety, greater self-esteem, greater sense of control, and better behavioral functioning were not supported. Similarly, the hypotheses that parents who more openly communicated with their child about the cancer experience would experience better personal and marital functioning were not supported.

That this study did not better affirm relationships between communication and individual adjustment is puzzling, given prior studies showing relationships between informational communication and adjustment. But there have been other studies (Worchel et al., 1987) that did not find such relationships. Such differences may be attributed to differences in how communication has been operationalized across studies or in the limitations of this study's methodology. Previous studies typically operationalized communication as amount of knowledge of the cancer or amount of talking about the cancer but this study operationalized

communication in terms of openness and frequency. It is possible that even though this study attempted to more specifically examine some aspects of communication, other aspects examined are actually broader than those of previous research. For example, the strength of relationship between the child's knowledge of the cancer and the child's personal functioning may be diminished in this study given that "communication of information" is more encompassing than what specific knowledge a child has about the cancer.

That openness of communication had numerous significant associations with interpersonal/social functioning was all the more surprising, given of the lack of association with individual functioning variables. Openness of communication did (as correlations suggested) significantly and consistently account for variance in family functioning (cohesion and conflict); aspects of social support (the child's seeking of and parental satisfaction with, quality of support received by the child); and the parent-child relationship closeness. Openness ratings across all domains (i.e., informational and emotional, children's and parents') accounted for 15 to 29% of the variance in various functioning variables. The findings are consistent with prior research which has pointed to such associations between communication and parent-child closeness (Spinetta & Maloney, 1978), social/peer interaction (Fritz et al., 1988), and adaptive family coping (Kupst et al., 1982, 1984).

The hypothesis that emotional communication would relate significantly more strongly to functioning than informational communication was not clearly supported. Regression analyses indicated that

communication of information accounted for more variance in more functioning variables than did communication of emotions. Trends toward significance did indicate that emotional communication may bear more on interpersonal domains like relationships and social support; if so, this would be consistent with the study's earlier findings that social variables accounted for more significant variance in emotional communication than in informational communication.

Nurses' ratings of openness of communication correlated primarily with nurses' own summary ratings of children's and parents' functioning. Nurses do perceive a relationship, then, between communication and individual functioning. It is likely that nurses view family communication as so related to family functioning that summary ratings of both are similar. Interviewer ratings, on the other hand, seemed to follow suit with child and parent ratings in showing significant associations with social support and family variables but not with individual functioning.

Frequency of Communication

As with openness variables, frequency variables showed significant associations with family functioning and interpersonal/social functioning rather than with individual functioning; however the associations were fewer than with openness variables. Also as with openness variables, informational frequency accounted for more significant variance than emotional frequency (which did not account for significant variance). The single significant relationship between communication and individual functioning (excepting the nurses' correlated ratings) was between the child's frequency of communication (informational and emotional) and the child's

locus of control; how often children talk about the cancer experience relates to children's sense of control during the experience. This finding is consistent with the conceptualization of communication as an adaptive coping strategy that fosters children's sense of control (Nannis et al., 1982; Worchel et al., 1987).

Clinical Implications

The described communication and pattern of associations suggest several overall conclusions and clinical implications.

Foremost, significant associations between parent-child communication and functioning underscore the clinical importance of communication. Clinicians should be mindful that how open and frequent children and parents are in their communication relates consistently to family cohesion and conflict, parent-child emotional closeness, and social support -- which are, in essence, quality of life issues. Children who talk and share their cancer experience with their parents feel more unity within their families, feel closer to their parents, and feel more emotionally supported. As one child stated, "I like to talk and see that I can share with somebody and that my dad can talk with me, that shows me that he trusts me and that he can tell me stuff." In addition, children who communicate more often feel more in control of their life than children who communicate less often. As one parent remarked, "She has gotten to where she'll tell me what she doesn't like ... which is good, I mean she needs to feel in control sometimes." Although no directionality can be affirmed, it may be that more open and frequent communication enhances family relationships, support systems, and children's sense of control. If such is the case (consistent with prior studies'

interpretation of communication impacting functioning), then communication may serve as a useful target for assessment and intervention in cases where concerns about functioning exist.

Second, clinicians should be aware of the associations of social and medical variables with communication; in particular, the relationship of the social environment with emotional communication and the relationship of the medical environment with informational communication. Clinicians can expect more open and frequent emotional communication in parent-child pairs with only/oldest children or with single parents and less open and frequent emotional communication in parent-child pairs with children who have siblings and are not oldest or with parents who have spouses/partners. Clinicians can also expect parents to show heightened emotional frequency when medical risk is greater and less informational communication as time elapses from diagnosis or as more relapses occur. Knowledge of these associations is helpful in understanding and anticipating differences in communication between families as well as within a given family over time from diagnosis.

Third, emotional communication appears to have a primary role in children's communication and how children perceive the communication they experience. Its associations with other aspects such as satisfaction, coping, and the parent-child relationship underscore its importance and relations with other areas. Hence, clinical focus on enhancing a child's emotional communication with the parent may also result in greater satisfaction with, helpfulness of, and importance of the communication to the child. Yet, it should be recognized that emotional communication is less

open and frequent than informational communication, and the children and parents do distinguish between the two areas.

Fourth, communication appears most helpful for children's coping when emotional issues are the focus of communication, while for parents communication is helpful when informational issues are the focus of communication. Such results suggest that children likely have a need for their emotional needs to be met/discussed, while parents have a need for informational issues to be discussed. This difference in which content relates to coping should be kept in mind by clinicians working with families as well as by parents in order to best facilitate communication to serve as a helpful coping means.

Fifth, the analyses underscore considerable connectedness between children's and parents' communication; one individual's communication behavior seems to relate to others' communication behavior in a reciprocal fashion. Parents then have a good opportunity to model their communication in order to positively impact their children's communication. Furthermore, where problems or dissatisfaction exist with the communication, working with both parent and child would appear to be the best clinical approach, rather than with only one member of the dyad. To this end, clinical intervention with parent(s) and child in the same session would appear to have more benefit than one-person sessions.

Sixth, children's communication about information and about emotions are very much related while for parents they are not. Hence, parents should be aware that the child's involvement in discussion of information may influence emotional communication as well.

Seventh, the correlational results indicate that aspects of communication may statistically differ in levels but still be significantly associated with each other; such results argue for a "different but related" viewpoint for several of these aspects of communication. Families may be surprised to learn this as many families may think that things that are associated with each other would be very similar; for example, that if informational and emotional openness were really related to each other then high informational openness should also mean high emotional openness. But the findings show informational communication to be typically significantly more open than emotional communication, despite their significant relationship with each other.

Finally, an effect of rater perspective on communication ratings exists and should be remembered whenever working clinically with families. Because perspectives can differ, the more input from different perspectives, the better.

Limitations and Future Research

Although this study improved upon past research, several limitations deserve mention, along with ideas about how these limitations may be addressed in the future.

First, the cross-sectional design served well as a sampling of behavior across individuals but did not allow for optimal analysis about how communication evolves. Communication about the cancer experience is undoubtedly a process beginning at time of diagnosis and continuing on, but this study's design prevented any conclusions about directionality of the correlational or regression results or about within-subject changes over time.

For instance, informational and emotional communication were highly associated with each other, but it remains unclear to what extent one may impact or "drive" the other. As well, communication was examined as a predictor to functioning given the directional model and findings already described in previous literature; however, the realms of communication and functioning may very well have unidirectional or reciprocal influences, depending on the communication aspect and area of function examined. For example, it may be that openness impacts perception of social support and that social support in turn impacts frequency of communication and openness. It is possible as well that mediating variables are in effect regarding communication's impact upon functioning. For example, perhaps frequency of communication impacts social support which in turn impacts individual functioning. A longitudinal design with periodic assessment from time of diagnosis would be helpful in addressing these issues of directionality.

Second, only one parent from each family participated in the study. Participation by both parents is critical to enable examination of the nuclear family context in which communication occurs. The data from this study suggest that differences exist and associations are low between the child's openness of communication with one parent and the child's openness of communication with the other parent. Yet, further specifics about these differences and reasons for them remain unknown. Several possibilities come to mind to account for the differences. First, it may be that a rater bias is operative whereby the participating parents perceive themselves as "better" communicators than the nonparticipating parents. If ratings from the nonparticipating parent were to have been included, the nonparticipating

parents would perceive themselves as "better" communicators than the nonparticipating parents. Other possibilities include that the parent most involved in the child's medical care by nature of that role has greater communication with the child than the other parent; that parents are actually similar in their styles but elicit different communication behavior by the child; or that parents compensate for each other by doing what the other does not (e.g., one parent is emotionally open and discusses emotions frequently with the child but the other parent does not).

Third, the smaller sample size, lack of equal distribution of subjects across some core variables (e.g., age, sex, time since diagnosis), and number of variables may have limited statistical power in analyses. In several analyses, results just fell short of reaching statistical significance, especially when a more stringent level was used to accommodate the number of analyses. Future research would benefit from increased sample sizes to enhance the power of analyses and to have good representation across basic variables. For example, this sample had a preponderance of mother-son dyads that may have limited the degree of communication as well as an effect for gender on communication. Had other dyad pairings (e.g., mother-daughter) been better represented, the range of communication variables may have been broader and effects for gender on communication more possible. Furthermore, a larger sample size would likely help broaden the value range of variables. Using the factors of communication that were found from the factor analyses as communication variables in future research may be helpful in limiting the number of variables. This was not done in this study given the specific questions the study was designed to address.

Fourth, as with most research, it is possible that socially desirable responding occurred (e.g., about openness and frequency) which could account for the generally high ratings on these domains. However, the range of ratings endorsed suggest that a social desirability effect was minimal. Similarly, the opportunity for subjects approached for participation in the study to refuse participation suggests a selection bias. However, the small number of families ($n = 5$) to decline participation renders such a bias minimal.

Fifth, no control subjects were included in this study as the main focus was on examining communication patterns specifically about cancer, with the unique treatments and side effects of cancer setting it apart from other childhood diseases. It was believed by the investigator that once aspects of parent-child communication about cancer had been better identified and related to indices of adjustment, future studies could then perhaps compare different populations of chronically ill pediatric patients regarding parent-child communication.

Sixth, it should be remembered that communication was operationalized with ratings based on individual perception. As such, the perception is subjective to the person who is doing the rating and does not necessarily match an objective truth. For example, the parent who rates his/her openness as mostly open may indeed perceive it as such, but relative to a larger view of openness, others may rate it as less open; what the parent feels to be "often" may be very different from what the child perceives as often. Such limitations to the source of data about communication underscore the importance of gathering information from several reporters

and understanding, as this study tried to do, similarities and differences between reporters' perceptions.

Seventh, a limitation to all of the interpretations of informational/emotional communication is that it was not known what valence of positive or negative was associated with informational and emotional communication. That is, it could be that (a) the information communicated is "good" news and that so are the emotions; (b) that the emotions are quite negative and thereby drive the information side to respond to the emotions; or (c) that the information side is negative/"poor" news, thereby driving the emotions to be negative as well. This issue was not assessed in this study.

Finally, future research examining the role of communication on functioning would do well to explore whether the family and social support variables found to be involved in this study serve as mediating variables to impact individual functioning. In addition, it may be that the communication assessed in the study impacts other variables not assessed (e.g., medical compliance) which serve as mediating variables to individual functioning. It may be helpful as well to represent openness and frequency in additional ways. For example, it may be that degree of "match" between child and parent in openness and frequency is more important to functioning than levels of openness or frequency (e.g., that children and parents similar in openness, no matter how closed or open, demonstrate better functioning than children and parents with great differences in openness). The correlations between children's and parents' openness serve as a rudimentary step in addressing this issue of match. Match in communication style between

parents and their pediatricians has been suggested to be predictive of parent perceptions and behaviors about the child's medical condition (Worchel et al., 1995).

Conclusions

This study extends the pediatric psychosocial oncology literature about communication about the cancer experience in several important ways. Its foci on emotional communication, on communication specifically between parent and child, on both parent and child perspectives of communication, and on several aspects of communication serve as unique and significant empirical inquiries. The findings broaden our knowledge about the communication process, what factors relate to it, and how the communication relates to functioning. Patterns of communication are evident; medical and social variables relate to the communication; and the communication does show significant associations with social, family, and interpersonal functioning. However, the results are best understood in the context of specific effects by content, reporter, or subject person of the communication and by the communication aspect of inquiry.

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Do you have a particular religious preference? (Examples might be Catholicism, Judaism, Buddhism, 7th Day Adventist, etc.):

Yes (Name: _____)

No

Currently are you:

- single
- married/long-term relationship
- divorced
- separated
- widowed

How much education have you completed?

- less than 12 years of regular school
- high school diploma or GED
- 1 or more years of college or specialized training
- college degree
- graduate degree

What is your occupation or job title? _____

What are some of your most important activities or duties at work?

If living with someone (spouse, partner, relatives) who shares financial responsibilities in your household:

How much education has this person completed?

- less than 12 years of regular school
- high school diploma or GED
- 1 or more years of college or specialized training
- college degree
- graduate degree

What is this person's occupation or job title? _____

What are some of this person's most important activities or duties at work?

Have you ever sought psychological assistance for your child?

Yes No

If yes, what was the nature of this assistance? _____

Have you ever sought psychological assistance for yourself?

Yes No

If yes, what was the nature of this assistance? _____

APPENDIX B: Medical Information Form

Date (yy/mm/dd) of eval: ___ ___ ___
Date (yy/mm/dd) of birth: ___ ___ ___
Age (yrs,mos,days) of child at eval: ___ ___ ___
 YY MM DD

Diagnosis: _____

Disease severity rating at diagnosis: _____

Prognosis at diagnosis: _____

Date (yy/mm/dd) of diagnosis: ___ ___ ___
Date (yy/mm/dd) of eval: ___ ___ ___
Time (yy/mm/dd) since diagnosis: ___ ___ ___

Date (yy/mm/dd) of diagnosis: ___ ___ ___
Date (yy/mm/dd) of birth: ___ ___ ___
Age (yrs, mos, days) when first diagnosed: ___ ___ ___
 YY MM DD

Current medical status of the cancer:
___ active
___ in remission
___ relapse (# of relapses including this one: _____)

Current prognosis: _____

Number of inpatient hospitalizations due to this illness: _____
___ 0 times
___ 1-4 times
___ 5-9 times
___ 10 or more times

Cancer treatments this child has received:

Surgery? ___ Yes ___ No
Describe: _____

Radiation? Yes No
Describe: _____

Chemotherapy? Yes No
Describe: _____

Other? Describe: _____

APPENDIX C: Parent Interview

FIRST, IT WOULD BE HELPFUL IF YOU COULD TELL ME ABOUT XX'S ILLNESS -
ASSUME I DON'T KNOW ANYTHING ABOUT IT
(e.g., diagnosis, when diagnosed, circumstances leading up to diagnosis,
treatments received, where now in treatment plan, future treatment plans)

COMMUNICATION OF INFORMATION ABOUT THE CANCER EXPERIENCE
Now let's talk about information that your child is aware of, and information
about that has been talked about between you and XX.

WHAT DOES XX KNOW ABOUT HIS/HER ILLNESS?

... about the Diagnosis /what the illness is

- 1 = incorrect information
- 2 = nothing
- 3 = general information (e.g., knows that he/she is sick and has to have some medical treatments)
- 4 = specific information (e.g., knows name - cancer, leukemia)
- 5 = detailed (e.g., very knowledgeable about aspects of the disease)

... about Prognosis -- what may be expected to happen as XX gets older,
whether there is possibility of death. Has death been discussed?

- 1 = incorrect information
- 2 = nothing
- 3 = something, but little detailed knowledge

4 = detailed knowledge
 Death discussed? Y N

... about Treatment procedures

- 1 = incorrect knowledge
 2 = no knowledge
 3 = general knowledge (e.g., knows that things he/she goes through at the hospital are done to make him/her feel better)
 4 = specific information
- | | | |
|-------------------------------|---|---|
| - knows procedures done | Y | N |
| - knows why procedures done | Y | N |
| - knows names of medications | Y | N |
| - knows side effects | Y | N |
| - knows future treatment plan | Y | N |

OF WHAT YOU JUST TOLD ME, HOW MUCH HAVE YOU DISCUSSED WITH XX? IS THERE ANY INFORMATION YOU JUST TOLD ME THAT YOU HAVE NOT TOLD OR TALKED ABOUT WITH XX? IF YES, WHAT?

- 1 = Yes - parent has not told child something
 2 = No - parent has told all

IF YES, WHY DID YOU DECIDE NOT TO SHARE THIS WITH XX?

- 1 = I didn't think he/she wanted to know
 2 = I did not want to tell him/her; did not think he/she should know
 3 = I wanted to tell but did not know how
 4 = Someone else already told him/her

IN GENERAL, WHAT HAS INFLUENCED YOUR DECISION TO SHARE/NOT SHARE INFORMATION WITH XX (e.g., people, personal beliefs, circumstances)?

COMMUNICATION OF INFORMATION ABOUT THE CANCER EXPERIENCE

WHEN TALKING ABOUT THINGS HAVING TO DO WITH THE CANCER EXPERIENCE, WHAT DO YOU TWO USUALLY TALK ABOUT? WHAT ARE COMMON TOPICS OF CONVERSATION?

HOW OFTEN DO YOU AND YOUR M/F DISCUSS THINGS RELATED TO THE CANCER EXPERIENCE?

(e.g., about diagnosis, treatments, how you are each doing, appointments, etc)

-
- 1 = never
 - 2 = some but rarely (once a week or less)
 - 3 = often (couple times a week)
 - 4 = almost all the time/ a lot (pretty much daily)

WHO USUALLY STARTS THESE DISCUSSIONS?

-
- 1 = usually the parent
 - 2 = usually the child
 - 3 = parent and child, equally

OUT OF 100% OF THE TIME, WHAT % OF THE TIME DO YOU START THESE DISCUSSIONS AND WHAT % OF THE TIME DOES XX START THEM?

Child: _____ % of the time
Starts discussions:
1 = never
2 = sometimes
3 = often
4 = always

Parent: _____ % of the time
Starts discussions:
1 = never
2 = sometimes
3 = often
4 = always

IN GENERAL, DOES XX ASK YOU QUESTIONS ABOUT THINGS RELATED TO THE CANCER EXPERIENCE?

For example, about the cancer: about how it will change over time/how he/she will get better; about things being done to make him/her better (treatments)

- 1 = no questions
- 2 = yes, asks questions

IF YES, HOW DO YOU ANSWER?

- 1 = ignore/no response
- 2 = give limited/minimal answer
- 3 = answer honestly/as best as he/she can
- 4 = it depends on the question

IF YES, ARE THERE CERTAIN TIMES, PLACES, OR THINGS THAT HAPPEN WHEN IT IS MOST LIKELY THAT XX WILL ASK YOU THESE QUESTIONS OR START DISCUSSIONS ?

(e.g., when in the hospital; when in the car; when XX is feeling sick; at the dinner table as a family; when the Dr. talks with you)?

DO YOU EVER ASK XX QUESTIONS ABOUT THINGS RELATED TO THE CANCER EXPERIENCE? If so, what types of questions?

- 1 = no
- 2 = yes

IF YES, HOW DOES XX RESPOND TO THEM?

- 1 = ignores/no response
- 2 = gives limited/minimal answer
- 3 = answers honestly
- 4 = it depends on the question

IF YES, ARE THERE CERTAIN TIMES, PLACES, OR THINGS THAT HAPPEN
WHEN IT IS MOST LIKELY THAT YOU WILL ASK XX THESE
QUESTIONS OR START DISCUSSIONS?

(e.g., when in the hospital; when in the car; when XX is feeling sick; at the
dinner table as a family; when the Dr. talks with you)?

COMMUNICATION OF EMOTIONS

Sometimes parents and kids don't just talk about information about the cancer experience, but they also discuss or share how they feel, things they are worried about, or things they are afraid of. We call this communication of feelings and emotions.

DOES XX EVER DISCUSS FEELINGS/CONCERNS/EMOTIONS ABOUT THINGS RELATED TO THE CANCER EXPERIENCE WITH YOU?

- 1 = no
2 = yes

IF YES, WHAT KINDS?

IF YES, HOW OFTEN WOULD YOU SAY XX DOES THIS?

- 1 = never
2 = some but rarely (once a week or less)
3 = often (couple times a week)
4 = almost all the time/ a lot (pretty much daily)

IF YES, ARE THERE CERTAIN TIMES/PLACES/THINGS THAT HAPPEN WHEN XX IS MOST LIKELY TO DO THIS? DESCRIBE.

DO YOU EVER DISCUSS YOUR FEELINGS/CONCERNS/EMOTIONS ABOUT THE CANCER EXPERIENCE WITH XX?

- 1 = no
2 = yes

IF YES, WHAT?

IF YES, HOW OFTEN DO YOU DO THIS?

- 1 = never
- 2 = some but rarely (once a week or less)
- 3 = often (couple times a week)
- 4 = almost all the time/ a lot (pretty much daily)

IF YES, ARE THERE CERTAIN TIMES/PLACES/ THINGS THAT HAPPEN WHEN YOU ARE MOST LIKELY TO DO THIS? Describe.

NONVERBAL:

Sometimes people don't talk about their feelings and emotions. Instead, they do things, without words, that let people know what they are feeling -- like through facial gestures or behaviors. For example, some people cry when they are sad. Some people bang things around when they are mad.

HOW MUCH DOES XX SHOW YOU, WITHOUT USING WORDS, HIS/HER FEELINGS/CONCERNS/EMOTIONS ABOUT TINGS RELATED TO THE CANCER EXPERIENCE?

-
- 1 = never
 - 2 = some but rarely (once a week or less)
 - 3 = often (couple times a week)
 - 4 = almost all the time/ a lot (pretty much daily)

IF YES, WHAT ARE THE SOME OF THE WAYS XX DOES THIS?

IF YES, ARE THERE CERTAIN TIMES/PLACES/THINGS THAT HAPPEN WHEN XX IS MOST LIKELY TO DO THIS? Describe.

OVERALL, OF ALL THE TIMES XX MIGHT LET YOU KNOW HIS/HER FEELINGS/CONCERNS/EMOTIONS RELATED TO THE CANCER EXPERIENCE, HOW MUCH DOES XX DO IT WITH WORDS AND HOW MUCH DOES XX DO IT WITHOUT USING WORDS)?

- 1 = always without words, never with words
- 2 = mostly without words, sometimes with words
- 3 = equally with and without words
- 4 = mostly with words, sometimes without words
- 5 = always with words, never without words

What %age of time for each?

_____ % verbal; _____% nonverbal

- | | |
|-------------------------------|--------------------------------|
| 0 = 100% nonverbal, 0% verbal | 6 = 40% nonverbal, 60% verbal |
| 1 = 90% nonverbal, 10% verbal | 7 = 30% nonverbal, 70% verbal |
| 2 = 80% nonverbal, 20% verbal | 8 = 20% nonverbal, 80% verbal |
| 3 = 70% nonverbal, 30% verbal | 9 = 10% nonverbal, 90% verbal |
| 4 = 60% nonverbal, 40% verbal | 10 = 0% nonverbal, 100% verbal |
| 5 = 50% nonverbal, 50% verbal | |

Now, focusing on you, HOW MUCH WOULD YOU SAY YOU SHOW XX, WITHOUT USING WORDS, your feelings about things related to the cancer experience?

- 1 = never
- 2 = some but rarely (once a week or less)
- 3 = often (couple times a week)
- 4 = almost all the time/ a lot (pretty much daily)

If yes, what are the some of the ways in which you do this?

If yes, are there certain times/places/things that happen when you ue most likely to do this? Describe.

Overall, of all the times you might do this, HOW MUCH DO YOU DO IT USING WORDS AND HOW MUCH WITHOUT USING WORDS?

- 1 = always without words, never with words
2 = mostly without words, sometimes with words
3 = equally with and without words
4 = mostly with words, sometimes without words
5 = always with words, never without words

What %age of time for each?

____ % verbal; ____% nonverbal

- | | |
|-------------------------------|--------------------------------|
| 0 = 100% nonverbal, 0% verbal | 6 = 40% nonverbal, 60% verbal |
| 1 = 90% nonverbal, 10% verbal | 7 = 30% nonverbal, 70% verbal |
| 2 = 80% nonverbal, 20% verbal | 8 = 20% nonverbal, 80% verbal |
| 3 = 70% nonverbal, 30% verbal | 9 = 10% nonverbal, 90% verbal |
| 4 = 60% nonverbal, 40% verbal | 10 = 0% nonverbal, 100% verbal |
| 5 = 50% nonverbal, 50% verbal | |

CHANGE IN COMMUNICATION OVER TIME

Communication is often a process that changes with time and new circumstances. HOW WOULD YOU DESCRIBE HOW YOUR AND XX'S COMMUNICATION WITH EACH OTHER ABOUT THE CANCER EXPERIENCE HAS STAYED THE SAME OR CHANGED OVER TIME?

-
-
- 1 = decreased
 - 2 = stayed the same
 - 3 = increased
 - 4 = same amount but changed in focus

How do you think you have changed in how you talk about things or in how you show what you are feeling?

How do you think XX has changed in how he/she talks about things or in how he/she shows what he/she is feeling?

HOW HAS YOUR AND XX'S OVERALL STYLE OF COMMUNICATION WITH EACH OTHER CHANGED OVER TIME? - NOT JUST ABOUT THE CANCER EXPERIENCE, DO YOU TWO INTERACT DIFFERENTLY WITH EACH OTHER THAN BEFORE XX WAS DIAGNOSED?

-
-
- 1 = decreased
 - 2 = stayed the same
 - 3 = increased
 - 4 = same amount but changed in focus

How do you think you have changed?

How you think XX has changed?

CHANGE IN P-C RELATIONSHIP

HOW HAS YOUR AND XX'S RELATIONSHIP WITH EACH OTHER CHANGED OR STAYED THE SAME SINCE DIAGNOSIS OF THE CANCER?

THE RELATIONSHIP NOW IS:

- 1 = more distant
- 2 = same
- 3 = closer

THE CHANGE HAS BEEN:

- 1 = none
- 2 = a little/some
- 3 = a lot/very much

THE RELATIONSHIP USED TO BE (BEFORE DIAGNOSIS):

- 1 = very distanced/conflictual
- 2 = distanced/some conflict
- 3 = close
- 4 = very close

HOW IMPORTANT IS HOW YOUR AND XX'S CANCER-RELATED COMMUNICATION TO YOUR RELATIONSHIP? Describe.

- 1 = not important
- 2 = somewhat important
- 3 = very important

ATTITUDE

HOW WILLING IS XX TO TALK ABOUT OR SHARE FEELINGS ABOUT CANCER-RELATED THINGS WITH YOU?

- 1 = not willing
- 2 = somewhat willing
- 3 = very willing

HOW WILLING ARE YOU TO TALK ABOUT OR SHARE FEELINGS ABOUT CANCER-RELATED THINGS WITH YOU?

- 1 = not willing
- 2 = somewhat willing
- 3 = very willing

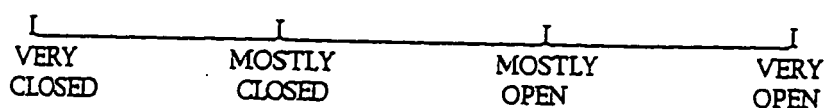
RATINGS

NOW: PICTURE A LINE (SHOW LINE):

- One end represents being "closed" in communication.

-The other end is "open" communication.

EXAMPLE:



1 = very closed

2 = closed

3 = open

4 = very open

HOW OPEN/CLOSED IS XX ABOUT...DISCUSSING INFORMATION/TALKING ABOUT CANCER-RELATED THINGS:

1 = very closed (little to no discussion)

2 = closed (some discussion; more closed than open)

3 = open

4 = very open (

DISCUSSING/SHARING/EXPRESSING EMOTIONS & FEELINGS RELATED TO THE CANCER EXPERIENCE:

1 = very closed (little to none)

2 = closed (some; more closed than open)

3 = open

4 = very open

HOW OPEN/CLOSED ARE YOU ABOUT...DISCUSSING INFORMATION/TALKING ABOUT CANCER-RELATED THINGS:

1 = very closed (little to no discussion)

2 = closed (some discussion; more closed than open)

3 = open

4 = very open (

DISCUSSING/SHARING/EXPRESSING EMOTIONS & FEELINGS RELATED TO THE CANCER EXPERIENCE:

1 = very closed (little to none)

- 2 = closed (some; more closed than open)
- 3 = open
- 4 = very open

OVERALL HOW OPEN OR CLOSED WOULD YOU SAY YOU AND XX ARE TOGETHER ABOUT..

DISCUSSING INFORMATION/TALKING ABOUT CANCER-RELATED THINGS:

- 1 = very closed (little to none)
- 2 = closed (some; more closed than open)
- 3 = open
- 4 = very open

DISCUSSING/SHARING/EXPRESSING EMOTIONS & FEELINGS RELATED TO THE CANCER EXPERIENCE:

- 1 = very closed (little to none)
- 2 = closed (some; more closed than open)
- 3 = open
- 4 = very open

WHAT ARE THE GOOD THINGS that come from talking with XX about cancer-related things? You like it most when

WHAT ARE THE HARD PARTS of talking with XX about cancer-related things? You don't like it/It's been hard when

HOW SATISFIED ARE YOU with how you and XX talk about/share cancer-related things?

- 1 = not satisfied at all
- 2 = somewhat satisfied
- 3 = very satisfied

HOW SATISFIED DO YOU THINK XX IS with how you and he/she talk about/share cancer-related things?

- 1 = not satisfied at all
- 2 = somewhat satisfied
- 3 = very satisfied

If you could change anything about how you and XX talk about information or share feelings about the illness experience, WHAT WOULD YOU CHANGE (how would you make it different)?

DO YOU THINK XX WOULD MAKE ANY CHANGES? If so, what?

Overall, YOU FEEL THE SUPPORT XX RECEIVES FROM YOU IS

- 1 = not enough/inadequate
 2 = O.K.
 3 = very good

WHAT OTHER PEOPLE does XX talk to about cancer-related things (e.g., friends, family members, other relatives, nurses/Drs.)?

- 1.
- 2.
- 3.
- 4.
- 5.

RANK how your talking about cancer-related things with XX ranks in comparison to his/her talking with these other people regarding

... HOW OFTEN XX TALKS WITH THEM:

- 1.
- 2.
- 3.
- 4.
- 5.

... HOW HELPFUL XX FINDS TALKING WITH THEM:

- 1.
- 2.
- 3.
- 4.
- 5.

FOR 2-PARENT FAMILIES: WITH THE OTHER PARENT (NOT IN THE STUDY) -
XX'S COMMUNICATION WITH THIS PARENT IS

ABOUT GENERAL INFORMATION RELATED TO THE CANCER EXPERIENCE:

VERY CLOSED MOSTLY CLOSED MOSTLY OPEN VERY OPEN

- 1 = very closed
- 2 = closed
- 3 = open
- 4 = very open

ABOUT EMOTIONS/FEELINGS/CONCERNS/WORRIES RELATED TO THE
CANCER EXPERIENCE:

VERY CLOSED MOSTLY CLOSED MOSTLY OPEN VERY OPEN

- 1 = very closed
- 2 = closed
- 3 = open
- 4 = very open

OVERALL:

VERY CLOSED MOSTLY CLOSED MOSTLY OPEN VERY OPEN

- 1 = very closed
- 2 = closed
- 3 = open
- 4 = very open

HOW OPEN OR CLOSED WOULD YOU SAY COMMUNICATION HAS BEEN BETWEEN
YOU AND THE DRS.?

- 1 = very closed
- 2 = mostly closed
- 3 = mostly open
- 4 = very open

SATISFACTION RATING OF THIS:

- 1 = not satisfied
- 2 = somewhat satisfied/ O.K.
- 3 = very satisfied

PARENTS CAN HAVE MANY DIFFERENT WAYS OF DEALING WITH THEIR CHILD HAVING CANCER. FOR YOU, HOW IMPORTANT OF A WAY IS YOUR TALKING ABOUT OR SHARING FEELINGS WITH XX ABOUT THE CANCER AND WHOLE EXPERIENCE IMPORTANT? HOW IMPORTANT IS THAT TO HOW YOU ARE ABLE TO COPE WITH THINGS?

- 1 = not important
- 2 = somewhat important
- 3 = very important

IF YOU COULD GIVE ADVICE TO OTHER M/F AND KIDS about how to COMMUNICATE ABOUT THINGS, YOUR ADVICE WOULD BE WHAT?

Thank you for taking the time to talk with me. Do you have any questions or comments about what we just did? Now I'll ask you to complete some forms that will help give us different information about your life as a parent of a child with cancer. Thank you again for your participation!

APPENDIX D: Child Interview

COMMUNICATION OF INFORMATION ABOUT THE CANCER EXPERIENCE

Well, first I thought we could start by having you tell me:

WHAT DO YOU KNOW ABOUT YOUR ILLNESS? – WHAT WOULD YOU TELL ME IF I DIDN'T KNOW ANYTHING ABOUT IT?

(What it's called, what that means, treatments you've had, etc.)

(FOLLOW-UP Q's if needed:)

(Diagnosis): Does the illness have a name?

- 1 = incorrect information
- 2 = no information about diagnosis
- 3 = general information (e.g., knows that he/she is sick and has to have some medical treatments)
- 4 = specific information (e.g., knows name - cancer, leukemia, etc.)
- 5 = detailed (e.g., very knowledgeable about aspects of the disease)

(Prognosis): What do you know about what will happen as you get older – about how you will get better/stay the same/have a harder time?

- 1 = incorrect knowledge
- 2 = nothing
- 3 = something, but little detailed knowledge
- 4 = detailed knowledge

(Treatment): What do you know about the things being done to make you feel better - about treatment procedures?

- 1 = incorrect knowledge

- 2 = no knowledge
- 3 = general knowledge (e.g., knows that things he/she goes through at the hospital are done to make him/her feel better)
- 4 = specific knowledge (e.g., knows basic procedures done)
- 5 = detailed knowledge (e.g., knows all about meds; details of surgery)

HOW MUCH OF WHAT YOU JUST TOLD ME HAS YOUR M/F SHARED WITH YOU AND TALKED WITH YOU ABOUT? IS THERE ANYTHING YOU JUST TOLD ME THAT YOUR M/F HAS NOT TOLD YOU OR TALKED ABOUT WITH YOU? IF YES, WHAT?

- 1 = parent has shared/discussed just some
- 2 = parent has shared/discussed all of it

IF YES, WHY DO YOU THINK YOUR M/F DID NOT SHARE THIS WITH YOU?

- 1 = I don't know
- 2 = did not want to tell me; did not think I should know
- 3 = wanted to tell me but did not know how to
- 4 = already knew that ____ had told me

WHEN TALKING ABOUT THINGS HAVING TO DO WITH YOUR ILLNESS, WHAT DO YOU TWO USUALLY TALK ABOUT? WHAT ARE COMMON TOPICS OF CONVERSATION?

HOW OFTEN DO YOU AND YOUR M/F DISCUSS THINGS RELATED TO YOUR ILLNESS AND ILLNESS EXPERIENCE?
(e.g., about treatments, how you are doing, appointments, etc)

- 1 = never
- 2 = some but rarely (once a week or less)

- 3 = often (couple times a week)
 4 = almost all the time/ a lot (pretty much daily)

WHO USUALLY STARTS THESE DISCUSSIONS?

- 1 = usually the parent
 2 = usually the child
 3 = parent and child, equally

OUT OF 100% OF THE TIME, WHAT % OF THE TIME DO YOU START THESE DISCUSSIONS AND WHAT % OF THE TIME DOES YOUR M/F START THEM?

Child: _____ % of the time

Starts discussions:

- 1 = never
 2 = sometimes
 3 = often
 4 = always

Parent: _____ % of the time

Starts discussions:

- 1 = never
 2 = sometimes
 3 = often
 4 = always

IN GENERAL, DO YOU ASK YOUR M/F QUESTIONS ABOUT THINGS RELATED TO THE ILLNESS EXPERIENCE?

For example, about the illness; about how it will change over time/how you will get better; about things being done to make you feel better (treatments)

- 1 = no questions
 2 = yes, asks questions
-
-
-

IF YES, HOW DOES YOUR M/F ANSWER?

- 1 = ignores/no response

- 2 = gives limited/minimal answer
- 3 = answers honestly/as best as he/she can
- 4 = it depends on the question

IF YES, ARE THERE CERTAIN TIMES, PLACES, OR THINGS THAT HAPPEN WHEN IT IS MOST LIKELY THAT YOU WILL ASK YOUR M/F THESE QUESTIONS

(e.g., when in the hospital; when in the car; when you are feeling sick; at the dinner table as a family; when the Dr. talks with you and your M/F)?

DOES YOUR M/F EVER ASK YOU QUESTIONS ABOUT THINGS RELATED TO THE ILLNES EXPERIENCE? If so, what types of questions?

- 1 = no
 - 2 = yes
-
-
-

IF YES, HOW DO YOU RESPOND TO THEM?

- 1 = ignore/no response
- 2 = give limited/minimal answer
- 3 = answer honestly
- 4 = it depends on the question

IF YES, ARE THERE CERTAIN TIMES, PLACES, OR THINGS THAT HAPPEN WHEN IT IS MOST LIKELY THAT YOUR M/F WILL ASK YOU THESE QUESTIONS ? (e.g., when in the hospital; when in the car; when you are feeling sick; at the dinner table as a family; when the Dr. talks with you and your M/F)?

COMMUNICATION OF EMOTIONS

Sometimes parents and kids don't just talk about information about the illness. They also talk about and share how they feel, things they are worried about, or things they are afraid of. We call this talking about and sharing feelings, worries, and emotions.

DO YOU EVER DISCUSS/TALK ABOUT/TELL YOUR FEELINGS/CONCERNS/EMOTIONS ABOUT ILLNESS-RELATED THINGS WITH YOUR M/F?

- 1 = no
- 2 = yes

IF YES, WHAT KINDS OF FEELINGS/CONCERNS/EMOTIONS?

IF YES, HOW OFTEN WOULD YOU SAY YOU DO THIS?

- 1 = never
- 2 = some but rarely (once a week or less)
- 3 = often (couple times a week)
- 4 = almost all the time/ a lot (pretty much daily)

IF YES, ARE THERE CERTAIN TIMES/PLACES/THINGS THAT HAPPEN WHEN YOU ARE MOST LIKELY TO DO THIS? DESCRIBE.

DOES YOUR M/F EVER DISCUSS HIS/HER FEELINGS/CONCERNS/EMOTIONS ABOUT ILLNESS-RELATED THINGS WITH YOU?

- 1 = no
- 2 = yes

IF YES, WHAT FEELINGS?

IF YES, HOW OFTEN DOES HE/SHE DO THIS?

- 1 = never
- 2 = some but rarely (once a week or less)
- 3 = often (couple times a week)
- 4 = almost all the time/ a lot (pretty much daily)

IF YES, ARE THERE CERTAIN TIMES/PLACES/ THINGS THAT HAPPEN WHEN YOUR M/F IS MOST LIKELY TO DO THIS? Describe.

NONVERBAL:

Sometimes people don't talk about their feelings and worries. Instead, they do things, without words, that let people know what they are feeling. For example, some people cry when they are sad. Some people bang things around when they are mad.

HOW MUCH DO YOU SHOW YOUR M/F, WITHOUT USING WORDS, YOUR FEELINGS/CONCERNS/EMOTIONS ABOUT ILLNESS THINGS?

- 1 = never
- 2 = some but rarely (once a week or less)
- 3 = often (couple times a week)
- 4 = almost all the time/ a lot (pretty much daily)

IF YES, WHAT ARE THE SOME OF THE WAYS YOU DO THIS?

IF YES, ARE THERE CERTAIN TIMES/PLACES/THINGS THAT HAPPEN WHEN YOU ARE MOST LIKELY TO DO THIS? Describe.

OVERALL, OF ALL THE TIMES YOU MIGHT LET YOUR M/F KNOW YOUR FEELINGS/CONCERNS/EMOTIONS, HOW MUCH DO YOU DO IT WITH WORDS AND HOW MUCH DO YOU DO IT WITHOUT USING WORDS?

- 1 = always without words, never with words
- 2 = mostly without words, sometimes with words
- 3 = equally with and without words
- 4 = mostly with words, sometimes without words
- 5 = always with words, never without words

Now, focusing on your M/F, how much would you say YOUR M/F SHOWS YOU, WITHOUT USING WORDS, his/her feelings about illness things?

- | | |
|-------------|--------------------------------|
| 1 = never | 1 = never |
| 2 = monthly | 2 = some but rarely |
| 3 = weekly | 3 = often |
| 4 = daily | 4 = almost all the time/ a lot |

If yes, what are the some of the ways in which your M/F does this?

If yes, are there certain times/places/things that happen when your M/F is most likely to do this? Describe.

Overall, of all the times your M/F might do this, HOW MUCH DOES HE/SHE DO IT USING WORDS AND HOW MUCH WITHOUT USING WORDS?

-
-
-
- 1 = always without words, never with words
 - 2 = mostly without words, sometimes with words
 - 3 = equally with and without words
 - 4 = mostly with words, sometimes without words
 - 5 = always with words, never without words

CHANGE IN COMMUNICATION OVER TIME

Sometimes how people talk with each other can change over time.
HOW HAS HOW YOU AND YOUR M/F TALK ABOUT INFORMATION OR SHARE
FEELINGS ABOUT ILLNESS THINGS stayed the same or changed since you were
first diagnosed?

- 1 = decreased
- 2 = stayed the same
- 3 = increased
- 4 = same amount but changed in focus

How do you think you have changed in how you talk about illness
things or in how you show what you are feeling?

How do you think your M/F has changed in how he/she talks about
illness things or in how he/she shows what he/she is feeling?

HOW HAS HOW YOU AND YOUR M/F TALK OR SHARE FEELINGS ABOUT NON-
ILLNESS THINGS STAYED THE SAME OR CHANGED?

- 1 = decreased
- 2 = stayed the same
- 3 = increased
- 4 = same amount but changed in focus

How do you think you have changed in how you talk about non-
illness things or in how you show what you are feeling?

How do you think your M/F has changed in how he/she talks about non-illness things or in how he/she shows what he/she is feeling?

CHANGE IN P-C RELATIONSHIP

HOW HAS YOUR RELATIONSHIP WITH YOUR M/F CHANGED OR STAYED THE SAME SINCE DIAGNOSIS OF THE CANCER?

THE RELATIONSHIP NOW IS:

- 1 = more distant
- 2 = same
- 3 = closer

THE CHANGE HAS BEEN:

- 1 = none
- 2 = a little/some
- 3 = a lot/very much

THE RELATIONSHIP USED TO BE (BEFORE DIAGNOSIS):

- 1 = very distanced/conflictual
- 2 = distanced/some conflict
- 3 = close
- 4 = very close

HOW IMPORTANT IS HOW YOU AND YOUR M/F TALK ABOUT ILLNESS THINGS TO HOW YOU TWO GET ALONG WITH EACH OTHER? Describe.

-
-
-
- 1 = not important
 - 2 = somewhat improtant
 - 3 = very important

ATTITUDE

HOW WILLING ARE YOU TO TALK ABOUT OR SHARE FEELINGS ABOUT ILLNESS THINGS WITH YOUR M/F?

-
-
- 1 = not willing
 - 2 = somewhat willing
 - 3 = very willing

HOW WILLING IS YOUR M/F TO TALK ABOUT OR SHARE FEELINGS ABOUT ILLNESS THINGS WITH YOU?

-
-
- 1 = not willing
 - 2 = somewhat willing
 - 3 = very willing

- 3 = open
- 4 = very open

OVERALL HOW OPEN OR CLOSED WOULD YOU SAY YOU AND YOUR M/F ARE TOGETHER ABOUT...

DISCUSSING INFORMATION/TALKING ABOUT ILLNESS-RELATED THINGS:

- 1 = very closed (little to none)
- 2 = closed (some; more closed than open)
- 3 = open
- 4 = very open

DISCUSSING/SHARING/EXPRESSING EMOTIONS & FEELINGS RELATED TO THE ILLNESS EXPERIENCE:

- 1 = very closed (little to none)
- 2 = closed (some; more closed than open)
- 3 = open
- 4 = very open

WHAT ARE THE GOOD THINGS that come from talking with your M/F about illness things? You like it most when

WHAT ARE THE HARD PARTS of talking with your M/F about illness things? You don't like it when

HOW SATISFIED ARE YOU with how you and your M/F talk about/share illness things?

- 1 = not satisfied at all
- 2 = somewhat satisfied
- 3 = very satisfied

HOW SATISFIED DO YOU THINK YOUR M/F IS with how you and he/she talk about/share illness things?

- 1 = not satisfied at all
- 2 = somewhat satisfied
- 3 = very satisfied

If you could change anything about how you and your M/F talk about information or share feelings about the illness experience. WHAT WOULD YOU CHANGE (how would you make it different)?

DO YOU THINK YOUR M/F WOULD MAKE ANY CHANGES? If so, what?

Overall, YOU FEEL THE SUPPORT YOU RECEIVE FROM M/F IS

- 1 = not enough/inadequate
 2 = O.K.
 3 = very good

CONTEXT

WHAT OTHER PEOPLE do you talk to about illness things (e.g., friends, family members, other relatives, nurses/Drs.)?

- 1.
- 2.
- 3.
- 4.
- 5.

RANK how your talking about your illness with your M/F ranks in comparison to talking with these other people regarding

-- HOW OFTEN YOU TALK WITH THEM ABOUT THE ILLNESS:

- 1.
- 2.
- 3.
- 4.
- 5.

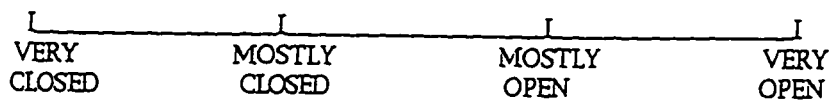
-- HOW HELPFUL YOU FIND TALKING WITH THEM IS FOR YOU:

- 1.
- 2.
- 3.
- 4.

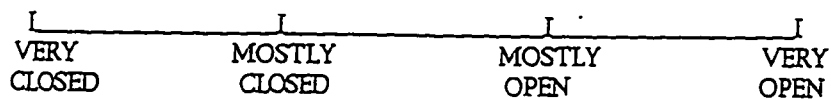
5.

WITH THE OTHER PARENT (NOT IN THE STUDY) - FOR 2-PARENT FAMILIES:ABOUT GENERAL INFORMATION:

- 1 = very closed
- 2 = closed
- 3 = open
- 4 = very open

ABOUT EMOTIONS/FEELINGS/CONCERNS/WORRIES:

- 1 = very closed
- 2 = closed
- 3 = open
- 4 = very open

OVERALL:

- 1 = very closed
- 2 = closed
- 3 = open
- 4 = very open

HOW OPEN OR CLOSED WOULD YOU SAY COMMUNICATION HAS BEEN BETWEEN YOU AND THE DRS.?

- 1 = very closed
- 2 = mostly closed

- 3 - mostly open
- 4 = very open

SATISFACTION RATING OF THIS:

- 1 = not satisfied
- 2 = somewhat satisfied/ O.K.
- 3 = very satisfied

KIDS CAN HAVE MANY DIFFERENT WAYS OF DEALING WITH THEIR ILLNESS. FOR YOU, HOW IMPORTANT OF A WAY IS YOUR TALKING ABOUT OR SHARING FEELINGS ABOUT YOUR ILLNESS WITH YOUR M/F?

- 1 = not important
- 2 = somewhat important
- 3 = very important

IF YOU COULD GIVE ADVICE TO OTHER M/F AND KIDS like you about how to talk about the illness experience your advice would be:

Thanks for taking the time to talk with me. Do you have any questions or comments for me about what we just did? Now I'll ask you to fill out some questionnaires that will help give us different information about your life. Thanks again for helping us out!

APPENDIX E: Interviewer and Nurse Rating Form

Subject #: _____
Name of Child: _____
Name of Parent: _____

This rating completed by:
_____ Clinical Nurse Specialist
_____ Child/Parent Interviewer

For the following questions, use the rating scale below and circle the response number you feel to be true. The ratings describe the climate or atmosphere of communication between child and parent, and may not necessarily be the same as the quantity (amount) of communication. Ratings are to be based on your most recent impression of the child and parent.

Example of Rating Scale:

- 1 = Very Closed (little to no sharing/communicating)
- 2 = Mostly Closed (some sharing/communicating, but minimal)
(more closed than open)
- 3 = Mostly Open (good sharing/communicating but not fully open)
(more open than closed)
- 4 = Very Open (full sharing/communicating)

HOW CLOSED OR OPEN IS THE ABOVE CHILD'S COMMUNICATION
WITH THE PARENT:

... ABOUT INFORMATION RELATED TO THE CANCER EXPERIENCE
(e.g., talking/asking questions about diagnosis, treatment, prognosis, side effects, other cancer-related issues)?

- 1 = Very Closed
- 2 = Mostly Closed
- 3 = Mostly Open
- 4 = Very Open

... ABOUT HIS/HER EMOTIONS/FEELINGS/FEARS/CONCERNS RELATED TO
CANCER ISSUES AND OVERALL CANCER EXPERIENCE?

- 1 = Very Closed
- 2 = Mostly Closed
- 3 = Mostly Open
- 4 = Very Open

HOW CLOSED OR OPEN IS THE ABOVE PARENT'S COMMUNICATION
WITH THE CHILD:

... ABOUT INFORMATION RELATED TO THE CANCER EXPERIENCE
(e.g., talking/asking questions about diagnosis, treatment, prognosis, side effects, other cancer-related issues)?

- 1 = Very Closed
- 2 = Mostly Closed
- 3 = Mostly Open
- 4 = Very Open

... ABOUT EMOTIONS/FEELINGS/FEARS/CONCERNS RELATED
TO CANCER ISSUES AND OVERALL CANCER EXPERIENCE?

- 1 = Very Closed
- 2 = Mostly Closed
- 3 = Mostly Open
- 4 = Very Open

OVERALL, HOW CLOSED OR OPEN IS THE ABOVE CHILD AND PARENT'S COMMUNICATION WITH EACH OTHER (AS A PAIR)? ...

.. ABOUT INFORMATION RELATED TO THE CANCER EXPERIENCE
(e.g., talking/asking questions about diagnosis, treatment, prognosis side effects, other cancer-related issues)?

- 1 = Very Closed
- 2 = Mostly Closed
- 3 = Mostly Open
- 4 = Very Open

... ABOUT EMOTIONS/FEELINGS/FEARS/CONCERNS RELATED TO CANCER ISSUES AND OVERALL CANCER EXPERIENCE?

- 1 = Very Closed
- 2 = Mostly Closed
- 3 = Mostly Open
- 4 = Very Open

THE CURRENT PSYCHOSOCIAL ADJUSTMENT OF THE CHILD APPEARS TO BE:

- 1 = Very Poor
- 2 = Poor
- 3 = Good
- 4 = Very Good

THE CURRENT PSYCHOSOCIAL ADJUSTMENT OF THE PARENT APPEARS TO BE:

- 1 = Very Poor
- 2 = Poor
- 3 = Good
- 4 = Very Good

ANY COMMENTS?? (about communication or adjustment):

APPENDIX F: Children's Manifest Anxiety Form - Revised

WHAT I THINK AND FEEL

Read each statement carefully. Put a circle around the word YES if you think it is true about you. Put a circle around the word NO if you think it is not true about you.

- | | | |
|--|-----|----|
| 1. I have trouble making up my mind. | YES | NO |
| 2. I get nervous when things do not go the right way for me. | YES | NO |
| 3. Others seem to do things easier than I can. | YES | NO |
| 4. I like everyone I know. | YES | NO |
| 5. Often I have trouble getting my breath. | YES | NO |
| 6. I worry alot of the time. | YES | NO |
| 7. I am afraid of a lot of things. | YES | NO |
| 8. I am always kind. | YES | NO |
| 9. I get mad easily. | YES | NO |
| 10. I worry about what my parents will say to me. | YES | NO |
| 11. I feel that others do not like the way I do things. | YES | NO |
| 12. I always have good manners. | YES | NO |
| 13. It is hard for me to get to sleep at night. | YES | NO |
| 14. I worry about what other people think about me. | YES | NO |
| 15. I feel alone even when there are people with me. | YES | NO |
| 16. I am always good. | YES | NO |
| 17. Often I feel sick to my stomach. | YES | NO |

18. My feelings get hurt easily.	YES	NO
19. My hands feel sweaty.	YES	NO
20. I am always nice to everyone.	YES	NO
21. I am tired a lot.	YES	NO
22. I worry about what is going to happen.	YES	NO
23. Other children are happier than I.	YES	NO
24. I tell the truth every single time.	YES	NO
25. I have bad dreams.	YES	NO
26. My feelings get hurt easily when I am fussed at.	YES	NO
27. I feel someone will tell me that I do things the wrong way.	YES	NO
28. I never get angry.	YES	NO
29. I wake up scared some of the time.	YES	NO
30. I worry when I go to bed at night.	YES	NO
31. It is hard for me to keep my mind on my schoolwork.	YES	NO
32. I never say things I shouldn't.	YES	NO
33. I wiggle in my seat a lot.	YES	NO
34. I am nervous.	YES	NO
35. A lot of people are against me.	YES	NO
36. I never lie.	YES	NO
37. I often worry about something bad happening to me.	YES	NO

APPENDIX G: Self-Perception Profile for Children/ Adolescents

WHAT I AM LIKE (C)

SAMPLE

	<u>A Lot</u> <u>like</u> <u>me</u>	<u>A Little</u> <u>like</u> <u>me</u>				<u>A Little</u> <u>like</u> <u>me</u>	<u>A Lot</u> <u>like</u> <u>me</u>
	<input type="checkbox"/>	<input type="checkbox"/>	Some kids would rather play outdoors in their spare time.	BUT	Other kids would rather watch T.V.	<input type="checkbox"/>	<input type="checkbox"/>
1.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids find it <i>hard</i> to make friends.	BUT	For other kids it's pretty <i>easy</i> .	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids often get <i>mad</i> at themselves.	BUT	Other kids are pretty <i>pleased</i> with themselves.	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids have a <i>lot</i> of friends.	BUT	Other kids <i>don't</i> have very many friends.	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids <i>don't</i> like the way they are leading their life.	BUT	Other kids <i>do</i> like the way they are leading their life.	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are kind of <i>hard</i> to like.	BUT	Other kids are really <i>easy</i> to like.	<input type="checkbox"/>	<input type="checkbox"/>
6.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are <i>happy</i> with themselves most of the time.	BUT	Other kids are often <i>not happy</i> with themselves.	<input type="checkbox"/>	<input type="checkbox"/>
7.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are always doing things with a <i>lot</i> of kids.	BUT	Other kids usually do things <i>by themselves</i> .	<input type="checkbox"/>	<input type="checkbox"/>
8.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids <i>like</i> the kind of person they are.	BUT	Other kids often wish they were someone else.	<input type="checkbox"/>	<input type="checkbox"/>

- | <u>A Lot</u> | | <u>A Little</u> | | | | <u>A Little</u> | | <u>A Lot</u> | |
|--------------|--------------------------|--------------------------|---|-----|--|--------------------------|--------------------------|--------------|--|
| <u>like</u> | <u>like</u> | | | | | <u>like</u> | <u>like</u> | | |
| <u>me</u> | <u>me</u> | | | | | <u>me</u> | <u>me</u> | | |
| 9. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids wish that more kids liked them. | BUT | Others feel that most kids <i>do</i> like them. | <input type="checkbox"/> | <input type="checkbox"/> | | |
| 10. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids are very <i>happy</i> being the way they are. | BUT | Other kids wish they were <i>different</i> . | <input type="checkbox"/> | <input type="checkbox"/> | | |
| 11. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids are <i>popular</i> with others their age. | BUT | Other kids are <i>not</i> very popular. | <input type="checkbox"/> | <input type="checkbox"/> | | |
| 12. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids <i>aren't</i> very happy with the way they do a lot of things | BUT | Other kids think the way they do things is <i>fine</i> . | <input type="checkbox"/> | <input type="checkbox"/> | | |

WHAT I AM LIKE (4)

SAMPLE

		<u>A Lot</u> <u>like</u> <u>me</u>	<u>A Little</u> <u>like</u> <u>me</u>			<u>A Little</u> <u>like</u> <u>me</u>	<u>A Lot</u> <u>like</u> <u>me</u>
		<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers like to go to movies in their spare time.	BUT	Other teenagers would rather go to sports events.	<input type="checkbox"/> <input type="checkbox"/>
<hr/>							
1.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers find it <i>hard</i> to make friends.	BUT	For other teenagers it's pretty <i>easy</i> .	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers are often disappointed with themselves.	BUT	Other teenagers are pretty <i>pleased</i> with themselves.	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers have a <i>lot</i> of friends.	BUT	Other teenagers <i>don't</i> have very many friends.	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers <i>don't</i> like the way they are leading their life.	BUT	Other teenagers <i>do</i> like like the way they are leading their life.	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers are kind of <i>hard</i> to like.	BUT	Other teenagers are really <i>easy</i> to like.	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
6.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers are <i>happy</i> with themselves most of the time.	BUT	Other teenagers are often <i>not happy</i> with themselves.	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
7.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers feel that they are socially accepted.	BUT	Other teenagers wish that more people their age accepted them.	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
8.	<input type="checkbox"/>	<input type="checkbox"/>	Some teenagers <i>like</i> the kind of person they are.	BUT	Other teenagers often wish wish they were someone else.	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>

A Lot A Little
like like
me me

A Little A Lot
like like
me me

9. Some teenagers are popular with others their age

BUT

Other teenagers are not very popular.

10. Some teenagers are very happy being the way they are.

BUT

Other teenagers wish they were different.

APPENDIX H: Nowicki-Strickland Internal-External
Locus of Control Scale for Children

NOWICKI-STRICKLAND SCALE

Answer each of the following questions YES or NO.
Remember, there are no right or wrong answers.

1. Do you believe that most problems will solve themselves if you just don't fool with them?
YES NO
2. Do you believe that you can stop yourself from catching a cold?
YES NO
3. Are some kids just born lucky?
YES NO
4. Most of the time do you feel that getting good grades means a great deal to you?
YES NO
5. Are you often blamed for things that just aren't your fault?
YES NO
6. Do you believe that if somebody studies hard enough he or she can pass any subject?
YES NO
7. Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway?
YES NO
8. Do you feel that if things start out well in the morning that it's going to be a good day no matter what you do?
YES NO
9. Do you feel that most of the time parents listen to what their children have to say?
YES NO
10. Do you believe that wishing can make good things happen?
YES NO
11. When you get punished does it usually seem it's for no good reason at all?
YES NO

12. Most of the time do you find it hard to change a friend's (mind) opinion?
YES NO
13. Do you think that cheering more than luck helps a team to win?
YES NO
14. Do you feel that it's nearly impossible to change your parent's mind about anything?
YES NO
15. Do you believe that your parents should allow you to make most of your own decisions?
YES NO
16. Do you feel that when you do something wrong there's very little you can do to make it right?
YES NO
17. Do you believe that most kids are just born good at sports?
YES NO
18. Are most of the other kids your age stronger than you are?
YES NO
19. Do you feel that one of the best ways to handle most problems is just not to think about them?
YES NO
20. Do you feel that you have a lot of choice in deciding who your friends are?
YES NO
21. If you find a four leaf clover do you believe that it might bring you good luck?
YES NO
22. Do you often feel that whether you do your homework has much to do with what kind of grades you get?
YES NO
23. Do you feel that when a kid your age decides to hit you, there's little you can do to stop him or her?
YES NO

24. Have you ever had a good luck charm?
YES NO
25. Do you believe that whether or not people like you depends on how you act?
YES NO
26. Will your parents usually help you if you ask them to?
YES NO
27. Have you felt that when people were mean to you it was usually for no reason at all?
YES NO
28. Most of the time, do you feel that you can change what might happen tomorrow by what you do today?
YES NO
29. Do you believe that when bad things are going to happen they just are going to happen no matter what you try to do to stop them?
YES NO
30. Do you think that kids can get their own way if they just keep trying?
YES NO
31. Most of the time do you find it useless to try to get your own way at home?
YES NO
32. Do you feel that when good things happen they happen because of hard work?
YES NO
33. Do you feel that when somebody your age wants to be your enemy there's little you can do to change matters?
YES NO
34. Do you feel that it's easy to get friends to do what you want them to?
YES NO
35. Do you usually feel that you have little to say about what you get to eat at home?
YES NO

36. Do you feel that when someone doesn't like you there's little you can do about it?
YES NO
37. Do you usually feel that it's almost useless to try in school because most other children are just plain smarter than you are?
YES NO
38. Are you the kind of person who believes that planning ahead makes things turn out better?
YES NO
39. Most of the time, do you feel that you have little to say about what your family decides to do?
YES NO
40. Do you think it's better to be smart than to be lucky?
YES NO

APPENDIX I: Family Environment Scale

FAMILY QUESTIONNAIRE

The following statements are about families. You are to decide how well each of these statements describes your family.

If you think a statement is True or most True of your family (that the statement describes your family pretty well) circle the T next to the statement.

If you think that the statement is False or mostly False of your family (does not describe what your family is like), circle the F.

You may feel that some of the statements are true for some people in your family and not true for others. Go ahead and mark T if the statement is true for most people in the family. Mark F if the statement is false/not true for most members..

Remember, we would like to know what your family seems like to you. So do not try to figure out how other people in your family see your family. Just tell us how you see your family for each statement below.

1. Family members really help and support one another. T F
2. Family members often keep their feelings to themselves. T F
3. We fight a lot in our family. T F
4. We often seem to be killing time at home. T F
5. We say anything we want to around home. T F
6. Family members rarely become openly angry. T F
7. We put a lot of energy into what we do at home. T F
8. It's hard to "blow off steam" at home without upsetting somebody. T F

9. Family members sometimes get so angry they throw things. T F
10. There is a feeling of togetherness in our family. T F
11. We tell each other about our personal problems. T F
12. Family members hardly ever lose their tempers. T F
13. We rarely volunteer when something has to be done at home. T F
14. If we feel like doing something on the spur of the moment
we often just pick up and go. T F
15. Family members often criticize each other. T F
16. Family members really back each other up. T F
17. Someone usually gets upset if you complain in our family. T F
18. Family members sometimes hit each other. T F
19. There is very little group spirit in our family. T F
20. Money and paying bills is openly talked about in our family. T F
21. If there's a disagreement in our family, we try hard to smoothe
things over and keep the peace. T F
22. We really get along well with each other. T F
23. We are usually careful about what we say to each other. T F

24. Family members often try to one-up or out-do each other. T F
25. There is plenty of time and attention for everyone in our family. T F
26. There are a lot of spontaneous discussions in our family. T F
27. In our family, we believe you don't ever get anywhere by raising your voice. T F

APPENDIX J: Social Support Rating Scale - Revised

SOCIAL SUPPORT QUESTIONNAIRE

PART I: CARING AND EMOTIONAL SUPPORT

There may be people in your life who provide you with caring and emotional support. These are people who you can count on to care about you, regardless of what is happening to you, and who accept you totally, including your good and bad points. They are ready to help and support you when you are upset, and they are genuinely concerned about your feelings and welfare.

Please rate each of the people below in terms of how helpful they would be in providing you with caring and emotional support if you needed it.

Circle a number to indicate your rating OR place an X to indicate people who you do not have/rarely see.

	Do not have or Rarely see	Not at all helpful	Somewhat helpful	Very helpful		
1. Father	___	1	2	3	4	5
2. Mother	___	1	2	3	4	5
3. Step-father	___	1	2	3	4	5
4. Step-mother	___	1	2	3	4	5
5. Brothers, Sisters	___	1	2	3	4	5
6. Cousins	___	1	2	3	4	5
7. Aunts, Uncles	___	1	2	3	4	5
8. Grandparents	___	1	2	3	4	5
9. Teachers	___	1	2	3	4	5
10. School counselor	___	1	2	3	4	5
11. School principal/head or Assistant principal	___	1	2	3	4	5

12. Best adult friend (neighbor, friend of the family, etc.)	_____	1	2	3	4	5
13. Clergy (priest, pastor, rabbi, minister, etc.)	_____	1	2	3	4	5
14. Best friend	_____	1	2	3	4	5
15. Boyfriend/girlfriend	_____	1	2	3	4	5
16. Other friends	_____	1	2	3	4	5
17. Classmates	_____	1	2	3	4	5
18. Doctor	_____	1	2	3	4	5
19. Nurse	_____	1	2	3	4	5
20. Other medical people	_____	1	2	3	4	5
21. _____	_____	1	2	3	4	5
22. _____	_____	1	2	3	4	5

Overall, how satisfied are you with the amount of caring and emotional support you receive from the people listed above?

Very Dissatisfied				So-so			Very Satisfied
1	2	3	4	5	6	7	

In general, when times comes up where you want or need it, are you the type of person who turns to others for caring and emotional support?

Never				Sometimes		Always
1	2	3	4	5	6	7

PART II: HELP AND GUIDANCE

Some people can be counted on to give help and guidance. They are there when you need advice or instruction to help you achieve your goals or solve problems. They can help you increase skills or knowledge, or they may be able to give you physical help when there something, like a task, that you have to do.

Please rate each of the people below in terms of how helpful they would be if you needed help and guidance.

	Do not have or Rarely see	Not at all helpful	Somewhat helpful	Very helpful		
1. Father	_____	1	2	3	4	5
2. Mother	_____	1	2	3	4	5
3. Step-father	_____	1	2	3	4	5
4. Step-mother	_____	1	2	3	4	5
5. Brothers, Sisters	_____	1	2	3	4	5
6. Cousins	_____	1	2	3	4	5
7. Aunts, Uncles	_____	1	2	3	4	5
8. Grandparents	_____	1	2	3	4	5
9. Teachers	_____	1	2	3	4	5
10. School counselor	_____	1	2	3	4	5
11. School principal/head or Assistant principal	_____	1	2	3	4	5
12. Best adult friend (neighbor, friend of the family, etc.)	_____	1	2	3	4	5
13. Clergy (priest, pastor, rabbi, minister, etc.)	_____	1	2	3	4	5

14. Best friend	_____	1	2	3	4	5
15. Boyfriend/girlfriend	_____	1	2	3	4	5
16. Other friends	_____	1	2	3	4	5
17. Classmates	_____	1	2	3	4	5
18. Doctor	_____	1	2	3	4	5
19. Nurse	_____	1	2	3	4	5
20. Other medical people	_____	1	2	3	4	5
21. _____	_____	1	2	3	4	5
22. _____	_____	1	2	3	4	5

Overall, how satisfied are you with the amount of help and guidance you receive from the people listed above?

Very Dissatisfied				So-so				Very Satisfied
1	2	3	4	5	6	7		

In general, when times comes up where you want or need it, are you the type of person who turns to others for help and guidance?

Never				Sometimes			Always
1	2	3	4	5	6	7	

APPENDIX K: Locke-Wallace Marital Adjustment Scale

MARITAL RELATIONSHIP INVENTORY (MRI)

1. Check the dot on the scale below which best describes the degree of happiness, everything considered, of your relationship. The middle point, "happy," represents the degree of happiness which most people get from marital relationships, and the scale gradually ranges on one side to those few who are very unhappy in marital relationships, and on the other, to those few who experience extreme joy or felicity in marital relationships.



Please state the approximate extent of agreement or disagreement between you and your partner on the following items. Please check each column.

	Always Agree	Almost Always Agree	Occasionally Disagree	Frequently Disagree	Almost Always Disagree	Always Disagree
2. Handling finances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Matters of recreation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Demonstrations of affection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Friends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Sex relations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Conventionality (right, good or proper conduct)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Philosophy of life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Ways of dealing with relatives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please circle the response which best answers the question.

10. When disagreements arise, they usually result in:
 (a) Male giving in (b) Female giving in (c) Agreement by mutual give and take
11. Do you and your partner engage in outside interests together?
 (a) All of them (b) Some of them (c) Very few of them
 (d) None of them
12. In leisure time do you generally prefer: (a) To be "on the go"
 (b) To stay at home?
 Does your partner generally prefer: (a) To be "on the go"
 (b) To stay at home?
13. Do you ever wish you had not made a commitment to marry your partner?
 (a) Frequently (b) Occasionally (c) Rarely (d) Never
14. If you had your life to live over, do you think you would:
 (a) Plan to marry the same person (b) Plan to marry a different person (c) Not marry at all
15. Do you confide in your partner?
 (a) Almost never (b) Rarely (c) In most things (d) In everything

APPENDIX L: Social Support Questionnaire - 6-Item Form

SOCIAL SUPPORT QUESTIONNAIRE

The following questions ask about people around you who provide you with help or support. Each question describes a different type of support and has two parts.

For the first part of each question: List (in any order) all the people you know who provide you with the kind of help/support described in the question. Just give the persons' initials and their relationship to you. You can list up to 9 people. If you have no one, then mark "no one."
(See the example below.)

For the second part of each question: Rate how satisfied you are with the support you have. Do this even if you marked "no one" above.

EXAMPLE

Who do you know whom you can trust with information that could get you in trouble?

_____	No one or list:	<u>Name</u>	<u>Relationship</u>
		1. <u>L.J.</u>	<u>friend</u>
		2. <u>B.R.</u>	<u>spouse/partner</u>
		3. <u>M.R.</u>	<u>child</u>
		4. <u>C.C.</u>	<u>sister</u>
		5. <u>S.T.</u>	<u>employer</u>
		6. <u>K.K.</u>	<u>friend</u>
		7. _____	_____
		8. _____	_____
		9. _____	_____

How satisfied?

6	5	4	3	2	1
Very Satisfied	Fairly Satisfied	A little Satisfied	A little Dissatisfied	Fairly Dissatisfied	Very Dissatisfied

1. Whom can you really count on to be dependable when you need help?

<p>_____ No one or list:</p>	<p><u>Name</u></p>	<p><u>Relationship</u></p>
	1. _____	_____
	2. _____	_____
	3. _____	_____
	4. _____	_____
	5. _____	_____
	6. _____	_____
	7. _____	_____
	8. _____	_____
	9. _____	_____

How satisfied?

6	5	4	3	2	1
Very Satisfied	Fairly Satisfied	A little Satisfied	A little Dissatisfied	Fairly Dissatisfied	Very Dissatisfied

2. Whom can you really count on to help you feel more relaxed when you are under pressure or tense?

<p>_____ No one or list:</p>	<p><u>Name</u></p>	<p><u>Relationship</u></p>
	1. _____	_____
	2. _____	_____
	3. _____	_____
	4. _____	_____
	5. _____	_____
	6. _____	_____
	7. _____	_____
	8. _____	_____
	9. _____	_____

How satisfied?

6	5	4	3	2	1
Very Satisfied	Fairly Satisfied	A little Satisfied	A little Dissatisfied	Fairly Dissatisfied	Very Dissatisfied

3. Who accepts you totally, including your worst and best points?

<p>_____ No one or list:</p>	<p><u>Name</u></p>	<p><u>Relationship</u></p>
	1. _____	_____
	2. _____	_____
	3. _____	_____
	4. _____	_____
	5. _____	_____
	6. _____	_____
	7. _____	_____
	8. _____	_____
	9. _____	_____

How satisfied?

6	5	4	3	2	1
Very Satisfied	Fairly Satisfied	A little Satisfied	A little Dissatisfied	Fairly Dissatisfied	Very Dissatisfied

4. Whom can you really count on to care about you, regardless of what is happening to you?

<p>_____ No one or list:</p>	<p><u>Name</u></p>	<p><u>Relationship</u></p>
	1. _____	_____
	2. _____	_____
	3. _____	_____
	4. _____	_____
	5. _____	_____
	6. _____	_____
	7. _____	_____
	8. _____	_____
	9. _____	_____

How satisfied?

6	5	4	3	2	1
Very Satisfied	Fairly Satisfied	A little Satisfied	A little Dissatisfied	Fairly Dissatisfied	Very Dissatisfied

5. Whom can you really count on to help you feel better when you are feeling generally down-in-the-dumps?

_____	No one or list:	<u>Name</u>	<u>Relationship</u>
		1. _____	_____
		2. _____	_____
		3. _____	_____
		4. _____	_____
		5. _____	_____
		6. _____	_____
		7. _____	_____
		8. _____	_____
		9. _____	_____

How satisfied?

6	5	4	3	2	1
Very Satisfied	Fairly Satisfied	A little Satisfied	A little Dissatisfied	Fairly Dissatisfied	Very Dissatisfied

6. Whom can you count on to console or comfort you when you are very upset?

_____	No one or list:	<u>Name</u>	<u>Relationship</u>
		1. _____	_____
		2. _____	_____
		3. _____	_____
		4. _____	_____
		5. _____	_____
		6. _____	_____
		7. _____	_____
		8. _____	_____
		9. _____	_____

How satisfied?

6	5	4	3	2	1
Very Satisfied	Fairly Satisfied	A little Satisfied	A little Dissatisfied	Fairly Dissatisfied	Very Dissatisfied

